

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

FEBRUARY 1, 1938

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COLLEGE



Daphne Mezereum

Some Experiences of 1937
Rejuvenation of Nursery Soils
Ohio's Biggest Short Course
State Convention Reports

AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

F. R. KILNER, Editor

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THAT OUTDOOR ROOM.

The outdoor living room has been emphasized in much advertising done by nurserymen in a general way, and in a few instances the idea has been projected in more concrete form.

In "Twigs," that interesting little mimeographed message which Peck & Wadsworth, Los Angeles, publish monthly, a formula is suggested:

"Builders estimate roughly the room cost of a house at \$1,000. A \$4,000 house on a \$1,000 lot should be placed in a setting of trees, shrubs and flowers costing about \$1,000. This wonderful outdoor room costs no more than other rooms. Those who overlook this opportunity might as well live in an apartment."

Not many homes costing \$4,000 have a planting about them of \$1,000 value, even in California. If nurserymen could get the public to think more specifically in such terms about the comparative value of home planting, landscape contracts would average considerably higher.

AFTER SELLING.

When a nurseryman has spent time and care to produce trees and shrubs of good quality, by planting in proper soil, fertilizing, spraying and watering, it is disheartening to see them ruined by neglect on the part of a customer who buys them. Even when the stock has been planted for the customer and instructions left for him, it is frequently found later that insufficient attention has been given to produce a showing such as the planter expected.

The Mirror of the Trade

Those doing a landscape business are finding it a service to themselves, as well as to customers, to follow up their planting orders to see that the stock is given proper growing conditions after it is sold, as well as before. This is akin to the checking service which an automobile dealer gives for a period after selling a car. Many other dealers render a similar service, though their mechanical gadgets are not so likely to suffer from negligence as a growing plant. If it is good business for others, it should be good business for the nurseryman.

FOREST RESTORATION.

In many states public responsibility has been sought for use of land resources, to increase the contribution of the land to the economic welfare of the community. In 1933 Dean F. B. Mumford appointed a land use committee in the college of agriculture of the University of Missouri. Late in 1936 this committee sponsored a report on forest restoration in Missouri, inviting the co-operation of state agencies and federal services. Some eighteen individuals of these agencies contributed papers to a final report, and these are combined in a bulletin of about 160 pages, No. 392, issued under date of November, 1937, by the University of Missouri. The volume emphasizes the more pressing aspects of the problems of forest restoration in Missouri, where but a small percentage of the 15,000,000 acres of forest land in the state is being actively developed, and that by the national forest service. Those nurserymen interested in awakening public interest in the use of private and public lands for forest purposes will find this volume quite helpful for the arguments and statements it presents.

DAPHNE MEZEREUM.

February daphne, the common name for Daphne Mezereum, is appropriate, because this little shrub usually starts to bloom during the expiation month in the south. In the north it may not bloom until April, late March and early April being the normal flowering period in the latitude of Chicago. To be

seen at its best in the north, Mezereum should be given a sunny protected spot, the south side of a wall, building or group of evergreens being admirably suited to this little gem of a shrub. Otherwise, adverse weather conditions are likely to spoil the flowers as fast as they open.

The tiny fragrant blooms, thickly set along the twiggy branches, as can be seen in the front cover illustration, are reddish purple, though sometimes they are more nearly lilac lavender. These rosy stemless blooms are usually produced in clusters of three and always long before the leaves appear.

Although the February daphne may eventually reach a height of four feet, it grows extremely slow and may not exceed three feet. It is well suited, like its sister, the garland flower, *D. Cneorum*, to the rock garden and the perennial border. Mezereum is best propagated by cuttings taken from plants forced in a greenhouse in late winter and spring. It can be grown from seeds, too, which should be sown in a coldframe in autumn as soon as they are ripe. Germination is usually slow.

The scarlet berries ripening in late summer—usually August and September—are another of this shrub's attractions.

Although the plant blooms best in a sunny spot, its growth is most satisfactory when it gets light shade, particularly during the hot summer months. It is tolerant of considerable shade; so it may be used to good advantage for such locations, which are invariably problems in planting. The February daphne has escaped from cultivation and naturalized itself in parts of eastern North America and has established itself as a native in many thin woodlands in England. As soon as nurserymen's stocks become more plentiful in this country and the trade gives the shrub a little publicity, it will most assuredly be widely planted.

Besides the type, there are single and double white forms, known respectively as *alba* and *plena*, and a larger bright purple variety, *grandiflora*, but the only one of these known to be available in the American trade is the single white.

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No. 3

Some Experiences of 1937

Observations in Nurseries During the Past Year Reveal Newer Plants Worth Adding to Propagating Lists — By C. W. Wood

As we enter another calendar year, it may be profitable to look back over the one we have just gone through and cast up accounts to see what progress we have made. It is the usual practice in this matter to stress figures which show our financial standing and, although that is a necessary part of every business, it is not the only standard by which progress is to be judged. Equally important, and perhaps more so in the long run, is that of good will. If no friends were made during the year, temporary financial gains will have little weight in long-term growth; on the other hand, if the business showed few, if any, profits, yet added friends, it shows that progress is being made.

It was my privilege to visit scores of nurseries during the past year, most of them being of the class doing a local business. From observations made during those interviews, I am more than ever convinced that, aside from good business ethics, which includes giving all one can for the money rather than trying to get all the traffic will stand, the factor of most importance in the local nursery is to offer as comprehensive a list of good plants as facilities permit. That does not mean, of course, that one should clutter up his nursery with many plants which possess interest for no one but the botanist. Gardeners are not often interested in that sort of material, but gone is the day when the amateur is satisfied to fill his garden with pansies and ordinary bedding plants year after year. There is still, and let us hope there always will be, a steady demand for these

stand-bys, but the wise neighborhood grower will give careful consideration to the present trend toward more diversified plants and will keep a constant watch for new items which possess more than ordinary garden value. It has been the purpose of these notes during past years to direct attention to just that kind of material. If they have been the means of helping readers to a more appealing list of offerings, they have served their purpose and the editor and the author are made happy thereby. With that purpose in mind, let us examine a few items which the latter found helpful during 1937.

We have been scolded so much about neglecting our native flora that we no longer feel the lash of the chiding tongue. Yet I am reminded every year, as the beauty of new ones unfolds before me, that we need to be jarred out of our placid ways. The flowering last year of *Melampodium cinereum*, with its pure white, helianthemum-like flowers on 8-inch, branching stems, was a further reminder of that need. It has most of the attributes of the perfect rock garden ornament—its general usefulness does not restrict it to that sphere, however—including ease of culture in a sunny, well drained spot, neatness of plant and long period of blooming. Experience in northern Michigan shows that it tends to be everblooming, not in a sparing way, but rather prodigiously throughout late spring, summer and autumn, and comes into flower within three months or so from planting of seeds. It has every appearance of being a really valuable addition to our all too

short list of everblooming plants. I cannot recommend it too highly for trial throughout the United States, for it apparently possesses all the qualities, such as resistance to drought and heat, winter hardiness and general ease of culture, which go into the making of a plant of wide appeal.

Psephellus heterophyllus is one of the *centaurea* cousins brought back from the Caucasus regions by E. K. Balls in 1934. Most of this class of plants which I have had the privilege of growing have shown little garden value. The subject of this paragraph has, however, shown itself to be not only attractive in its rosette of leaves, which are gray above and brilliantly white below, but the 2-inch heads of mauve pink flowers, with white centers, on 5-inch stems are quite the best of its class. The flowering period is quite long, covering a period of two months or such a matter, beginning in late May. All of these features make it an excellent garden plant for a sunny situation. It appears to be easily suited as to soil, provided drainage is good. It is perhaps best grown from seeds and these, according to my experience, should be planted in autumn or, if planted in spring, should be frozen for a few weeks. Maybe icebox storage for a month or so would make them viable.

I have not had *Campanula orphanidea* long enough to pass final judgment on it, but indications so far point to its being a splendid addition to our bellflower group. In northern Michigan we always look on a plant from Greece with some suspicion as

to its hardiness, and in consequence our few plants of this species have not been tried in the open. If it does prove hardy—and most of the Greekian campanulas are hardy here—it's beauty will eventually make it a favorite among amateurs. The plant makes a pretty rosette of spoon-shaped leaves, which supports numerous 1-inch to 2-inch stems, each of which carries quite large, lilac blue bells, mostly upturned. It appears to be of quite easy culture in a sunny or partly shaded spot in a gritty soil.

Named varieties of pyrethrum, *Chrysanthemum coccineum*, have not the place in American nurseries which their merits warrant. There are few better cut flowers among hardy plants and their value for border decoration is beyond question. Why, then, are they not more grown? The answer is to be found, no doubt, in the fact that the named kinds are of rather slow increase, being propagated by division. During recent years I have had rather complete trials of the kinds now available in America and hope that these notes will incite other neighborhood growers to do likewise. I am sure that the experience will open up an avenue for additional sales. A good list for a start might include the following: Eileen May Robinson, single, bright pink; James Kelway, single, crimson red; Queen Mary, semi-double, silvery pink; Miami Queen, double, deep pink; Sylvia, double, creamy white; Venus, large, very double, deep rose. And I hear glowing reports of a new anemone-flowered variety, Pink Bouquet, which an eastern firm will introduce this coming spring. The advance notices of the last-named say it is a new break in pyrethrum, but that leaves out of consideration an anemone-flowered variety which was introduced twenty years or more ago. Be that as it may, you are missing something really good when you neglect the named varieties of pyrethrum. They are propagated by division at almost any season, directly after flowering being preferred by most growers, though early spring propagation will produce a larger one-year plant, but that is at the expense of flowers the first year.

Pure yellow gaillardias have special value both for garden decoration and for cutting and will become increasingly popular as they become more

generally available. Sun God is an excellent color and good form, but it lacks vigor, falling an easy prey to diseases, and cannot stand northern Michigan winters unless heavily protected. Mr. Sherbrook, on the other hand, has shown much stamina and is apparently quite hardy, but will need another season of trial to show definitely what it can do under our rigorous climate. It, too, is a true yellow without a trace of red.

Veronica Blue Spire, which is said to be a cross between *V. longifolia* subseassilis and *V. spicata*, has much to recommend it to the garden maker. It possesses the excellent color of the former, though it lacks much of the massiveness of spike of that variety, and has the floriferousness of spicata. It seems to be able to stand more punishment than its first-named parent can take, resembling more *V. spicata* in that respect. It is to be grown from cuttings taken in spring and perhaps after flowering. Speaking of veronicas reminds me that the rather new pink-flowered form of *V. incana* is a good selling item, being an unusual combination of pink flowers in foot-tall spikes over tufts of silvery foliage. It moves easily while in bloom, especially if taken up with a ball of soil or when grown in pots.

There is no reason to mention all the good, new, hardy asters, but at least two, Charles Wilson and Col. F. R. Dunham, should have some attention. The first of these is the best red aster that I have seen, having not even a suggestion of the magenta that has marred so many other reds. It is a compact grower to a height of three feet, covering itself with cerise red flowers during September and October. Col. F. R. Dunham is even more floriferous, the flower color being a splendid shade of lavender blue. The advances made in Michaelmas daisies during recent years have been indeed great. If you have not kept abreast of the new introductions, it will pay you to make a survey of the situation. Although not exactly new, Aster Star of Wartburg is not so widely distributed as its merits warrant. This is a form of *A. subcæruleus*, I believe, blooming in early spring, and therefore competes with few others of its kind. This is another item that does well in pots, and the large lilac blue flowers on 12-inch stems are so attractive to customers—the flowers come at a

time when gardeners are at the height of their spring planting fever—that sales resistance breaks down at once. It is also a good forcing item so the wholesale demand among florists offers a field for large numbers of plants. Be sure that stock plants have been reproduced vegetatively from true material, because that is the only way to get true Star of Wartburg. Much of the material on the American market has been grown from seeds, most of the seedlings showing little, if any, improvement over type *subcæruleus*.

NEW PEARS PROMISING.

Pear growing might be developed into a paying industry for eastern fruit growers if good varieties free from blight could be had, declares Prof. G. H. Howe, fruit specialist at the New York state experiment station.

Many pear crosses have been made at the station with this end in view, utilizing extensively Seckel and Bartlett, among others, as parents, and from the more than 4,000 seedlings that have fruited, to date, nine have been named and introduced for trial by fruit growers.

Of all of these, Gorham is rated by Professor Howe as the best pear seedling originating on the station grounds, although it is sometimes subject to blight. Gorham is a Bartlett seedling, ripening from two to three weeks after that variety. It is equal to Bartlett in quality and is well liked by canners both in New York and in California. Other new varieties of the Bartlett type include Pulteney, Phelps, Covert, Ovid and Willard, the last three being classed as winter varieties.

Early Seckel, Clyde and Cayuga are examples of outstanding Seckel type of seedlings and are particularly recommended because they extend the season for Seckel, with Early Seckel ripening from two to three weeks earlier and Clyde and Cayuga ripening several weeks later.

As in the case of all new fruits originated at the experiment station, planting stocks of these new pears, except Covert, may now be obtained from the New York Fruit Testing Association, at Geneva, at a nominal cost. In addition, the fruit testing association is offering Dana Hovey, an old variety of fine quality, and Ewart, an introduction from Ohio which is believed to have promise for eastern orchards.

Rejuvenation of Nursery Soils

Suitable Soils and Their Maintenance in Productive Fertility Told Western Association of Nurserymen—By R. I. Throckmorton, Kansas State College

Soil requirements for the production of nursery stock are specific rather than general, as is the case with most general farm crops. They are specific, however, more with regard to physical requirements than with chemical requirements.

The physical requirements for a good nursery soil are such as will provide good tilth, good drainage, good aeration and high water-holding capacity. These conditions exist in soils having loam to fine sandy loam surface soil, and from a loam to a silt loam subsoil. The structural condition of the soil is frequently as important as the textural properties. The ideal condition is that of a friable or granular surface soil to a depth of from eight to twelve inches underlaid by a granular subsoil which will provide for deep root and moisture penetration. If these conditions exist, the soil will have good aeration, but it may not have high water-holding capacity. High water-holding capacity is determined primarily by the amount of organic matter in the soil and also by texture, structure and depth of the soil. The nutrient requirements for the production of nursery stock are not especially different from those required for the best production of grain and forage crops. It is essential that the soil have a high content of total nutrients, but it is more essential that a good supply of available nutrients exist during the growing season. The activity, or in other words, the rate of availability of the nutrients is usually much more important than the total nutrient content of the soil. During the last few years much has been written concerning the so-called minor agricultural elements such as boron, iodine, zinc and manganese, but so far as we know, the soils of the central west contain a sufficient quantity of these elements to meet the requirements of all types of vegetation. I feel, therefore, that we should limit our consideration primarily to the three elements which tend to be limiting factors in the production of all types of plant life.

Potassium, commonly called pot-

ash, is important because it is essential for starch formation and in the development of chlorophyll. The presence of a sufficient quantity of available potash results in plants having more vigor and thus being more resistant to certain diseases. Soils of the middle west, however, with few exceptions, contain sufficient potash to meet the needs of plants almost indefinitely. If the soil is kept well supplied with organic matter, the carbon dioxide generated through the decay of this material will cause a liberation of the potash and thus maintain an active supply sufficient to meet the requirements of plants. In other words, we do not have a potash problem throughout practically all the territory represented by this group. The only exceptions are some of the more sandy areas in the eastern and southern portions of the region that are being used for the production of nursery stock.

Phosphorus is important in the development of plants. It encourages root development, particularly of the lateral and fibrous roots. This renders it valuable especially in those soils that do not encourage a development of the roots. It stimulates early maturing of plants and therefore would tend to cause nursery stock to mature earlier in the fall. Since phosphorus increases the general vigor of plants, it causes them to be more resistant to some of the common plant diseases. It has frequently been said that phosphorus counteracts the influence of exceedingly heavy applications of nitrogen, but I have failed to observe this influence from phosphorus.

Most of the soils throughout this region are distinctly low in phosphorus. Phosphorus is lacking in total amount in most soils east of the 30-inch rainfall zone. Not only is the total phosphorus content of the soils low, but much of the phosphorus exists in a nonavailable form. This means that there is a phosphorus problem from the standpoint of the production of nursery stock and that consideration must be given, not only to the liberation of the

phosphorus in the soil, but also to the addition of phosphorus in most cases if plants are to make a normal growth of both tops and roots, and are to mature properly early in the fall.

Nitrogen is important because it tends to encourage the vegetative growth aboveground and to impart a deep green color to the leaves of plants. It influences the utilization of phosphorus and potassium by plants, all of which are desirable qualities. If nitrogen is present in excess amounts, it may cause the overstimulation of vegetative growth and tend to delay the maturing of the plants. An excess quantity of nitrogen also decreases the resistance of plants to diseases. This means that there must be a good balance of available nitrogen throughout the season and that it is desirable to have a relatively high content of available nitrogen in the soil during the early portion of the season and a relatively low content late in the season. The unavailable nitrogen in the soil can be changed to an available form during the growing season by those tillage methods which will promote good tilth and aeration of the soil. The more sandy soils and those existing in regions of heavy rainfall tend to be low in total nitrogen and in available nitrogen. These deficiencies may be met through the use of legumes, manure or the application of commercial nitrogen.

Effects of Production.

Nursery production, under most condition, leads to a reduction of the good physical condition naturally existing in such soils and also to a reduction in the available nutrients of the soil. Clean cultivation, which is essential, permits excessive aeration, which results in the oxidization of the organic matter, and this in turn tends to destroy the granular condition of the soil and, by doing so, makes it more susceptible to baking and crusting, and decreases the water-absorbing and water-holding capacity. Under such conditions, plants are more susceptible to injury during periods of drought. In the harvesting of nur-

ery stock, portions of the subsoil are frequently brought to the surface, thus mixing raw, unweathered soil material with the surface soil, and thereby reducing the relative amount of organic matter in the surface layer, and also reducing the relative amount of available nutrients in the surface portion of the soil. The handling of soils when they are wet, as the harvesting of nursery stock when the soil has a high percentage of moisture, tends to produce a puddled condition, which destroys good tilth and interferes with aeration and the liberation of nutrients.

The effects of nursery production on the nutrient content of the soil are not so noticeable during the early period of nursery production as is the effect on the physical condition. However, nursery production does tend to lower the nitrogen content of the soil quite rapidly because of the destruction of organic matter, the type of tillage which tends to encourage the loss of nitrogen by leaching and the removal of nitrogen from the tissues of plants. Nursery production also encourages the loss of phosphorus through plant removal and reduces the amount of available phosphorus because of its influence on the physical condition of the soil. The poor physical condition resulting from nursery production naturally tends to reduce the availability of all nutrients. Thus there may be a lack of available nutrients in nursery soils, while in other soils in the same community there may be an abundance of available nutrients for the production of the common crops.

Methods of Improvement.

In considering methods of improving soils used for nursery production, it is advisable to consider two aspects of the problem: (1) Methods of improving the structure of the soil, (2) methods of increasing the quantity and activity of the plant nutrients.

The structure of nursery soils may be improved by proper tillage; that is, using those tillage practices and tilling the soil at those times which will lead to the development of a granular condition. Such a condition may be brought about through tillage to best advantage by fall plowing when the soil is to be used for spring planting, and by using the shovel type of implements in the tillage practices rather than disk types. If soils have become cloddy, the disk may be used to good advan-

tage, but care should be taken not to break the surface soil down to a dust-like condition. The surface layer of soil should consist of granules rather than of a dust layer or of clods.

Organic matter, especially fibrous organic matter such as is supplied by the roots of the grasses and such legumes as sweet clover, red clover and alfalfa, has a decided beneficial effect on the physical condition of the soil. This fibrous material tends to bind individual soil particles into groups and give rise to a granular condition. Other organic materials, such as those supplied through the use of manure, the plowing under of soy beans, cowpeas and cereals, will definitely improve the physical condition of the soil, but will not be so beneficial as the types of organic matter which add fibrous material to the soil. Under many types of nursery production, it is not practical to use grasses, sweet clover or alfalfa, and therefore it becomes necessary to depend upon the less fibrous types of organic materials. A high organic content, however, is essential if a good physical condition of the soil is to be maintained, and without a good physical condition, good nursery production is not possible.

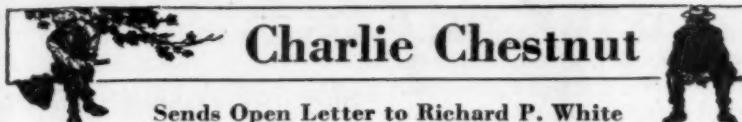
Methods of increasing the amount and activity of the nutrients in the soil correlate quite closely with methods to improve the structure of the soil, except that in some cases it becomes necessary to add certain materials. The nitrogen content of the soil may be increased and the nitrogen made more active by the use of legume green manuring crops and the application of manure. Such green manuring crops as clovers, alfalfa, soy beans, cowpeas and vetch will add large quantities of nitrogen to the soil if the crops are plowed under. If, however, such crops as soy beans and cowpeas are harvested and only the stubble and root are left in the soil, they will have only a slight influence on the nitrogen content of the soil. Since it is usually necessary to increase the organic content as well as the nitrogen content of the soil, it is evident that the best method is that of plowing under the entire legume crop. Manure will have much the same influence as the green manuring crop; that is, it may be used to increase both the organic and nitrogen content. The use of straw, plowing under a heavy weed growth and the addition of other non-nitrogen organic materials will reduce

the amount of active or available nitrogen in the soil for a period of time. If, for example, straw is added to the land during the winter and it is then incorporated with the soil or left as a surface mulch, it will retard the development of nitrates, and plants may suffer from a lack of nitrogen until after the organic material has decayed to considerable extent, possibly as late as the middle to the last of June. It is evident, therefore, that such materials are undesirable under those conditions where it is necessary to obtain a maximum growth of plants during the early part of the season. The effects of such materials on the amount of nitrogen available to plants in the early part of the season may be overcome by the use of commercial nitrogen, as sodium nitrate or ammonium sulphate.

The nitrogen requirements may be met in a practical manner under some conditions by the use of commercial nitrogen alone, but usually it is necessary to add both nitrogen and organic matter. The common nitrogen fertilizers which supply available nitrogen to plants almost immediately after their application are sodium nitrate and ammonium sulphate. These fertilizers may be used in the eastern part of this region, and especially on the more sandy soils to good advantage. The application should be made quite early in the spring, as at the time of planting, or just before growth starts in the case of older nursery stock. Nitrogen fertilizers should not be used in the latter part of the season because they stimulate late growth and thus result in late maturing of the plants. Excessively heavy applications of nitrogen may prove detrimental, especially on droughty soils and during years of drought and excessively high temperatures, because such applications encourage the heavy development of vegetative growth which uses large quantities of moisture, and as a result, there will not be sufficient moisture remaining in the soil to meet the demands of the plants. Such a condition will finally result in wilting and death of the plants.

Phosphorus deficiency cannot be met so easily or so readily as can the deficiency of nitrogen. While nitrogen can be secured from the atmosphere by the growing of legumes and from applications of manure, phosphorus can be secured only through commercial sources. The manures

[Continued on page 8.]



Sends Open Letter to Richard P. White

Dear Mr. White:

Well, Mr. White, I see by the papers that the committee has saw fit to appoint you to be the Wash. D. C. rep. I guess you will know how I feel about it, on acct. of I was led to believe I had it all sowed up, or as you might say I read between the lines that my application was looking pretty good to the committee. However I am not one to bare a grudge and I am willing to let bygones be bygones and I will not cry over split milk as the saying is. I only hope that the committee didnt make no mistakes in pickin on you. I looked pretty deep into the whole Wash. D. C. episode, with a view that I might be the one to go, and I have decided that you aint going to have no bed of roses. Now this aint a sour grapes, this here idea is based on the actual facts.

Now you take at conventions. Everybody knows that you will have a expense account and they will be expecting you to hand out free cigars, free beer and free meals to all the different nurserymen which has put in there checks for a certain amt. in the Wash. D. C. fund. Your expense account which you figgered you could work in a new overcoat will be so big anyway that the committee will sure jump on you about it and if you aint careful it will lead to a big augument. I aint trying to take you offen your high horse but there aint no harm for you to lock the barn before all the horses gets out.

You know how talk gets around and you know how nurserymen are. Or maybe you dont know. But you will find out. I was at the convention in Chi. which I go each year in January. I have made it a practice to stand in the lobby where the nurserymen always stay instead of going to the meeting and I was keeping my ears on the ground, as I always say it pays to know what the different nurserymen has got to say, I overheard two nurserymen talking and I says to myself I'll bet that Mr. White's ear is burning, because they was discussing the Wash. D. C. matter. Now them 2 nurserymen are 2 which has each put in \$10.00 each on your salary so you better pay attention. One of them

says, "Well this man White has been on the payroll since Jan. one and here it is the 15 of the month and so far it looks to me like we aint got nothing for our money." The other nurseryman says, "I have wrote in to make a complaint about the sitchuation here in Ill., which I told Mr. White I would expect him to take up with the senators and get a law made on it. You know the list of stock for the state highway department with the 860 Elms on it. Well I went around to see 8 different nurserymen and we all agreed to quote \$1.65 each and no less. It was a gentlemens agreement, no papers to sign or nothin but just a understanding, as you might say. I got to figgerin it over and made up my mind that they would probably nock off a little so I put in at \$1.45 each. Then I went to springfield when they opened the bids. Well sir I was high on the quotation and there was 7 guys under me. The lowest one quoted 43c each and he got the order. Now I claim there ought to be a law so that the state will tell the nurserymen how much they will pay for a certain item and then let the nurserymen write to the state if they want to do business or not. This is the kind of problems which Mr. White should take up with the senators and get a law made up to give the nurserymen a square deal."

Probably you will be prejudiced in taking any advise from me, but if you are as smart as the committee claims, you will play clost attention and take advantage of my research which I done when I made my unsuccessful campain for the Wash. D. C. rep. job. You have first got to go to work and classify the nurserymen into different piles so that you can see what you are up against and then work it around with both ends against the middle. Now you aint been around amongst the nurserymen like I have, Mr. White, so you probably think their is only 2 kinds of nurserymen, like wholesale and retail, good or bad, big and little and like that, but I claim you have got to separate em down into groups, before you can see where you are at. Here is how I would go to work and do it.

Now take the retail. First you have

the mail order. Some of the mail order sells glad bulbs, goldfish and grapes, some sells apples and apricots only, some sell dahlias and rhubarb and dont care a dam about some other mail order nurserymen, which is trying to make a living offen baby chicks, delphinium and furniture polish on the side. Now Mr. White if you think its going to be a chore to get this group going along smooth, you aint heard nothin yet.

Some of the folks that pays your salary is agents only, first, last and all the time. They are agin the mail order in a big way. They knock the mail order and figger out ways to keep the mail order from cuttin in on their customers.

Then you cant overlook the landscape nursery, which runs around with hightop boots, a wheelbarrow and a tape measure. They all got to eat too, remember.

Then just to add to your troubles there is the roadside nursery. Sometimes I think they have got the best racket of all. They can knock the agents, the mail order and the landscape men and they dont have to pay no commission, no freight and no catalog. If there aint no business they just lay low until something turns up. But don't forget they all got ideas about what is wrong with the nursery business and they are expecting you to fix everything.

It wouldnt be so bad if the nurserymen would all stay put in there proper place, but you never can tell when a retailer will decide to be wholesale, or when a wholesaler will take a notio to open up mail order or agents or what not. One day they are with you, next day they are against you. So dont figger on nothin, Mr. White, but bad news and then you won't be disappointed.

Now some of the nurserymen that pays the most of your salary is the wholesale nurserymen and they wont stand for any monkey business or no noncents either. A bulb grower in Oregon has got plenty of trouble without fightin any battles for the grapefruit growers in Florida. And what, I ask does a nurseryman in North Dakota with 40 acres of osage orange care about a nurseryman in Connecticut with nothing but 2000 cryptomeria that nobody wants.

All this may sound a little complicated Mr. White, but remember you asked for the job and its up to you to

fix everything so all the nurserymen will be satisfied.

I might run over a few other little items you can fix for the nurserymen when you get a few minutes time. There is some complaint about the wages situation. Nurserymen in Texas are paying \$1.00 per day which they think is too much. Over in New York the nurserymen have to put out \$5.00 per day to get a man away from the W. P. A. This is something you should take up with the senators right away.

Dont forget we want all taxes cut down, if you can get them stopped all together it would be a big help. Keep your eyes on all the talk about quarantines, importing etc. and of course the nurserymen are all expecting you to make the govt. get out of the nursery business.

And just one thing more Mr. White, if you dont do nothin else could you explain to nurserymen that they should pay there bills when due, 30 days is 30 days and not 6 months. It would sure be swell if you could do that Mr. White.

And you better hurry up because you never can tell how long the nurserymen will pay your salary. Nurserymen give down awful hard.

PLANTS FOR NEW ENGLAND.

The first attempt to get together a limited but comprehensive propagating list of woody plants suitable for New England appears in an 84-page booklet, bulletin 345 of the Massachusetts agricultural experiment station, dated August, 1937, and just received. It is entitled, "Woody Plants for New England Gardens, Parks and Roadsides," and the author is George Graves, assistant research professor of nursery culture, well known for his work at the Waltham field station.

Reports were gathered from many nurserymen and other plant authorities of the section, and the list expresses a composite opinion of woody material as it is being used today in New England. The main body of the bulletin consists of an alphabetical arrangement of genera, and under each genus are presented brief comments on the species or garden forms included. Such description is not technical, but rather in the form of hints as to garden value or cultural particulars. Appended are a few general lists pre-

senting the plants on the basis of habit or outstanding ability for specific uses. Mr. Graves states that there is no doubt that further study will be required for the greater usefulness and accuracy of such a list, and therefore this bulletin is intended as sort of a trial balloon at which intelligent considered opinions may be shot. In the meantime it should be useful to nurserymen of the northeastern section who may wish to revise their planting lists or catalogues.

C. H. BRANNON.

Becoming state entomologist January 18, 1937, Clarence H. Brannon likewise succeeded last year to the office of secretary-treasurer of the North Carolina Association of Nurserymen.

Mr. Brannon first appeared on the entomological staff of North Carolina in 1925, but left the following year to join the faculty and extension force of the state college, where he remained until he became head of the division of entomology in the state department of agriculture, last year.

Born in Tennessee, May 30, 1900, Mr. Brannon was reared in the Mississippi delta and graduated from Mississippi State College, at Starkville, in 1921 with a B. S. degree. In the succeeding four years he worked in various capacities for the United States Department of Agriculture and for the Mississippi state plant board. He did further college work at the North Carolina State College, where he received his master's degree in 1928.

He married Elizabeth Cloud, of



C. H. Brannon.

Charlottesville, Va., and they have two boys, 6 and 8 years old.

NEW YORK GARDEN HEADS.

J. E. Spingarn, Amenia, N. Y., widely known for his work with clematis, was elected to the board of managers of the New York Botanical Garden at the annual meeting last month. Joseph R. Swan, who was named president to succeed Henry W. de Forest in November, was re-elected to this post for 1938. Arthur M. Anderson was elected treasurer to succeed Mr. Swan. Henry de Forest Baldwin and John L. Merrill were re-elected vice-presidents, and Henry de la Montagne was re-elected secretary.

NURSERY SOILS.

[Continued from page 6.]

carry only a small amount of phosphorus and therefore cannot be depended upon to meet the phosphorus requirement of most of our soils for the production of nursery stock. Poultry manure is higher in phosphorus content than any other form, but it also carries an extremely high percentage of nitrogen. If sufficient poultry manure were added to the soil to meet the phosphorus requirements, there would, under most conditions, be an excessive amount of nitrogen, which might prove detrimental. In considering the phosphorus problem, we must regard not only the total amount of phosphorus in the soil, but also its activity. The relatively inactive phosphorus may be made more active by maintaining a good organic content and a good structural condition. The amount of phosphorus may be increased only through the use of commercial materials, such as one of the superphosphates, bone meal, or raw rock phosphate. The superphosphates are more readily available than any of the other forms, and may be used in the form of sixteen, eighteen or twenty per cent superphosphate, or in the forty-three to forty-five per cent treble phosphate. Apparently it makes little difference what form is used, provided the same amount of phosphorus is applied to the soil. The superphosphates should be applied for new plantings just before planting and should be thoroughly incorporated with the surface soil. If phosphate is to be added to soil for established plants, the application should be made in the early

spring and the phosphorus should be worked into the soil during the period of cultivation.

Bone meal is not so readily available as the superphosphates, but under most conditions is quite satisfactory in the production of nursery stock if the material is applied to the soil at a relatively heavy rate at the time of planting. It must be thoroughly incorporated with the surface soil and cannot be used successfully as a surface application later in the production of the plants.

Raw rock phosphate is quite slow in availability and can be used successfully only in those soils having a high organic content or when applied with and incorporated in the soil with relatively large quantities of organic matter. The phosphorus carried in raw rock phosphate is made available by the carbon dioxide generated through the decay of organic matter working in combination with water. Raw rock phosphate, like bone meal, cannot be used successfully in surface applications.

It is evident from the foregoing remarks that proper management of nursery soil demands that the production of nursery stock be rotated with the production of other crops, especially legumes such as alfalfa, sweet clover and red clover, because of the effect of continuous production on the physical condition of the soil. It is realized that this is not possible under many conditions because of limited land resources and that the soils must be used almost constantly for the production of some type of nursery stock. Where this is necessary, it seems that the most practical method is that of maintaining a high organic content of the soil through the use of manure and, wherever possible, the growing of a legume green manuring crop such as sweet clover, soy beans, cowpeas or winter vetch. Under such conditions, the phosphorus supply must be maintained at a satisfactory level and this can usually be done through the use of phosphate fertilizers. If it is not possible to maintain the nitrogen content at a satisfactory level by the use of manure and legume crops, commercial nitrogen could be supplied. Perhaps the most important problem in the continuous production of nursery stock is that of maintaining a good physical condition of the soil, because it is not difficult to meet the requirements for nutrients.

The Nurseryman's Library

List of Helpful Trade Books Suggested in Talk to Kansas Nurserymen by George A. Filinger, of Kansas State College

Nurserymen, naturally, are anxious to get the latest news on the various phases of nursery practice. Those who get reliable information first profit most. They depend upon special journals, scientific bulletins and books for advice and precautions concerning their practices.

Nurserymen are not only interested in new authentic information, but they are anxious to standardize their practices because they are often dependent upon each other for various materials.

A knowledge of literature on nursery practice is, therefore, important to nurserymen for three reasons: (1) To keep posted on new and better developments, investigations and experiences. (2) To help explain conflicting ideas and suggestions. (3) To standardize practices.

Journals and magazines are usually the first to disseminate interesting and valuable information to specialists. The material is gleaned from many sources and from distant points; so it is not surprising that occasionally conflicting opinions are published. Every nurseryman should receive regularly one or more journals dealing with his phase of horticulture.

The various state experiment stations, the United States Department of Agriculture and some horticultural organizations publish bulletins and circulars that contain valuable information for nurserymen. These bulletins are often based on careful research and study; hence, they are slower to get new information out, but are usually authentic and reliable. If conflicting information is found in such bulletins and circulars, it is usually because the research work was done under different environmental conditions. Nurserymen will find many valuable bulletins and circulars on the various phases of their work.

A nurseryman's library is not complete without books on plants, plant propagation and plant handling. Most authors sift reports, ideas and conclusions over carefully before publishing them in book form. Although they may not contain the latest wrinkles on various phases of nurs-

ery work, they are usually authentic and do not get out of date soon. "The Nursery Manual," by L. H. Bailey, for example, was published in 1920 and is still a valuable reference.

The following bibliography is by no means complete, but may serve in calling attention of nurserymen to books that would be valuable in their libraries:

STANDARD CYCLOPEDIA OF HORTICULTURE, by L. H. Bailey. \$15.00.

THE NURSERY MANUAL, by L. H. Bailey. \$3.00.

MANUAL OF CULTIVATED PLANTS, by L. H. Bailey. \$7.00.

CULTIVATED CONIFERS OF NORTH AMERICA, by L. H. Bailey. \$7.50.

TREES IN WINTER, THEIR STUDY AND IDENTIFICATION, by A. F. Blakesley and C. D. Jarvis. \$2.50.

NURSERY SALES AND MANAGEMENT, by Nelson Coon. \$1.50.

TEXT BOOK OF DENDROLOGY, by W. M. Harlow and E. S. Harrar. \$4.50.

THE BOOK OF SHRUBS, by A. C. Hottes. \$3.00.

THE BOOK OF TREES, by A. C. Hottes. \$3.50.

PLANT PROPAGATION—999 QUESTIONS ANSWERED, by A. C. Hottes. \$2.00.

MODERN NURSERY, by A. Laurie and L. C. Chadwick. \$5.00.

THE PLANT BUYERS' INDEX, by J. W. Manning. \$10.00.

MANUAL OF CULTIVATED TREES AND SHRUBS HARDY IN NORTH AMERICA, by A. Rehder. \$5.00.

MANUAL OF TREES OF NORTH AMERICA, by C. S. Sargent. \$5.00.

STANDARDIZED PLANT NAMES. \$5.00.

NURSERY COST FINDING, by John Surtees. \$7.50.

SEEDING AND PLANTING IN THE PRACTICE OF FORESTRY, by J. W. Tummey. \$5.00.

HARDY SHRUBS, by F. A. Waugh. \$1.25.

MANUAL OF TREE AND SHRUB INSECTS, by E. P. Felt. \$3.50.

DISEASES OF ECONOMIC PLANTS, by F. L. Stevens and J. G. Hall. \$3.90.

Connecticut Meeting

Debate on Formation of A. A. N. Chapter Features State Meeting at Farmington

The Connecticut Nurserymen's Association held its annual meeting Wednesday, January 19, at the Elm Tree Inn, Farmington, Conn. Fifty-four members and guests were present.

President Edgar M. Brown, Simsbury, enumerated the following accomplishments of the year, giving credit to the administration of the previous year for some of them: (1) Dues were raised from \$2 to \$5. (2) Legislation was put through in the state exempting growing nursery stock from taxation. (3) Connecticut's quota of \$750 was exceeded by \$176.75 for the Washington representative.

President Brown named the following objectives for future administrations: (1) Better merchandising. (2) More uniform prices of commodities. (3) An annual state horticultural exhibition in different centers of the state.

Arthur Bird, Bristol, Conn., was appointed chairman of the nominating committee, and Arthur Webster and George Harris, Manchester, were chosen from the floor. President Brown appointed Fred S. Baker, Cheshire, and Alec Stovekin, Cromwell, as the auditing committee.

Dr. Britton extended an invitation to hold the next annual meeting at the experiment station at New Haven. New members proposed by the secretary were elected as follows: William Scott, of Scott's Nurseries, Bloomfield, and Ludwig Hoffman, of the Peter Cascio Nursery, West Hartford.

Arthur Bird, chairman of the nominating committee, presented for 1938 officers the following: President, Louis C. Vanderbrook, Manchester; vice-president, Henry Verkade, New London, and secretary-treasurer, Peter Cascio, West Hartford. It was voted that the secretary cast one ballot for their election.

Overorganization Feared.

Lester Needham, Springfield, Mass., was asked to speak on the proposed New England chapter of the A. A. N. He reported that if all organizations remained, the local trade would be overorganized. A nursery would belong to its state organization, the Council of Eastern Nurserymen, the New England Nurserymen's Association and the A. A. N. He thought the way out would be to: (1) Join the state organization and go no further if one did not want to. (2) Get more members into the A. A. N. and change the New England Nurserymen's Association into the New England chapter of the A. A. N.

Mr. Needham later added that the local group would be stronger as a New England chapter, for if it broke up into state chapters, Maine and New Hampshire would not be represented, as they have no state chapters. Massachusetts might have a chapter if it got some more members to join the A. A. N. Connecticut could have a chapter, and perhaps Rhode Island. However, all combined could pool their memberships in the A. A. N. and have more delegates to the A. A. N.

A motion was made and passed that

since the Council of Eastern Nurserymen had fulfilled its object of helping reorganize the A. A. N. and had done an extremely good job of it, and since there seemed to be no further need of this body, the Connecticut Nurserymen's Association severed its connections with the Council of Eastern Nurserymen. The meeting was then adjourned for luncheon.

After luncheon, Anthony Obricht, Manchester, entertained the membership with twenty minutes of xylophone selections.

At 2:25 p. m. the business meeting was resumed. Miss Schwerdtfeger, from the Hartford office of the social security board, secretary to Mr. Dwyer, chief of the social security office, who was unable to be present, interpreted the new rulings applying to nurserymen. For over a half hour she answered questions. She left the feeling that in her office one could get satisfactory results under the law.

Trends Told.

The first speaker on the regular program was George Graves, assistant research professor of nursery culture, Massachusetts state experiment station, Waltham. He brought out that annuals are pushed in catalogues far more than perennials and that both are competing for the same dollar. There are two types of plants handled by nurserymen—those with quick turnover and those that take years and years to move. Annuals are tested and fairly fixed before being let out. It is different with perennials. There are so many varieties it is hard to know what to push. At Waltham the staff is trying to do some sorting. Work is progressing on hemerocallis, oriental poppies and phloxes. Woody plants are easier to sort, as there are only about 600.

Mr. Graves brought out, as a future trend, appropriate plants for modernistic buildings. These include trees of fastigiate growth, such as Lombardy poplars, but as poplars are not satisfactory in Connecticut, English oaks might be substituted. Other trees that have this characteristic shape are tulip trees, European beech and sugar maples. He spoke of roadside planting as a new field that will take many plants and that this called for propagation of native plants, as they only are appropriate.

Lately breeders have gone over to producing clonal or hybrid forms. They are up against the proposition of producing these for markets cheaply. He thought there is still a big field ahead for vegetative propagation. The big problem is to know what to propagate. Horticulture is probably the oldest profession in the world, and a great deal of gardening lore has been built up. In scientific things, new discoveries immediately go into print, but in gardening they remain the secret of the gardener and stay with him as a trade secret and usually die with him. So there is a lot of hidden lore in horticulture.

Mr. Graves' talk was followed by

that of Eugene M. Dietler, manager of the National Association of Credit Men, New Haven, Conn. He spoke on nursery credit problems. He said people start out on the wrong premise in connection with credit. Many think of concern's giving credit. The responsibility should be with the client. He should have the merit to receive credit. Credit is reputation backed by performance of many years. Only two per cent of people set out to be dishonest. There is no profit until you have collected your money.

In thinking of credit, consider three things: Character, capacity (to run business) and capital. Character is the most important. If a man has not character, have nothing to do with him. When selling, do not sell terms; have your terms and stick to them. Let a customer know what he owes and that it is due. If he does not pay, follow with a systematic and regular method of collection.

When a bill reaches a certain stage, it should be turned over to a collecting agency. If you promise to sue on a certain date, sue. If you have a lenient collecting policy, customers will owe you and pay cash elsewhere. Much success has been attained by dealers in the same commodity coöperating in one credit bureau.

The next speaker was Rev. George S. Brookes, Ph.D., renowned author and traveler of Rockville, Conn. He gave a humorous narrative of his coming to America and his struggles and triumphs. It was a wonderful talk, full of humor.

New England Chapter Favored.

Following this talk, it was decided to get some sentiment regarding a local chapter of the A. A. N. Those who wished to form a Connecticut chapter were asked to raise their hands. No one raised his hand. Those who wished to form a New England chapter, if such a chapter were formed, were asked to raise their hands, and many hands went up. So it looks as though the association is in favor of a New England chapter of the A. A. N.

President Brown then presented next year's officers. It was brought out that the by-laws should be amended to include associate members. The executive committee was instructed to present an appropriate by-law to this end next meeting. Peter Cascio, Sec'y.

DUTCH MANETTI GROWER HERE.

J. Dykhuis, of Felix & Dykhuis, Bokkoop, Holland, recently arrived at New York aboard the steamer Europa. He plans to be in this country until February 25 and can be reached by addressing him in care of the International Forwarding Co., 6 State street, New York. His firm is a large grower of Manetti rose stock and also is producing some new hardy camellias.

PATENT HOWARD ROSE.

From Rummel, Rummel & Woodworth, patent lawyers of Chicago, comes word of the following plant patent, issued January 18, 1938:

No. 2,028, Rose. Frederick Huber Howard, Montebello, Cal. A new and distinct variety of rose plant characterized particularly by its constant production of bloom, its glossy foliage, its apparent immunity to mildew, and its semidouble blooms of excellent lasting qualities and distinct clear pink color.

Form New England Chapter

New England Nurserymen's Association Votes Almost Unanimously to Transform Body into A. A. N. Chapter to Simplify Organization

Again pioneering in trade organization, the New England Nurserymen's Association is the first body to transform itself completely into a chapter of the American Association of Nurserymen. This was done by amendment to the by-laws at the annual meeting, held at the Hotel Statler, Boston, January 25 and 26, stipulating that membership in the A. A. N. shall be required as a qualification of membership in the New England association. The vote was almost unanimous, only two dissenters being recorded on the final ballot, while thirty-five indicated their approval. Of these nearly half are already members of the A. A. N. and the remainder either made application of membership in the national association or indicated their intention of doing so.

The greater part of the two-day meeting at Boston was given over to the discussion of this subject. The first session, on Tuesday afternoon, opened with the address of President Joel Barnes, Yalesville, Conn., and reports of the officers and of the following committee chairmen: Educational, H. V. Lawrence; legislative, Donald D. Wyman; membership, George Harris; vigilance, Charles Adams; A. A. N. convention, D. D. Wyman and Harlan P. Kelsey.

National Legislation.

The last report led to the address of the principal speaker of the day, Richard P. White, executive secretary of the A. A. N. He devoted his talk to the activities of the national organization on pending legislation in Washington affecting nurserymen, including the Borah-O'Mahoney bill on corporation licensing, Wheeler anti-basing point bill, farm forestry act and others. He also described the double bonding bill in Massachusetts, by which a contractor would be compelled to furnish a labor and materials bond, in addition to the performance bond already required.

At the conclusion of his talk, the executive committee presented its report recommending the formation of a New England chapter of the A. A. N. by a change in by-laws, as eventually approved. William N. Craig spoke against the measure, fearing a lessening of the original value of the group if the action were taken. It was pointed out, however, that the annual dues of \$10 hitherto required in the New England body would pay for annual membership by a small nurseryman in the A. A. N., so that actually an elimination of dues occurred and New England members will derive benefits from two organizations at minimum expense.

Reorganization Program.

Discussion of the subject continued the following morning after the address of Clarence Siebenthaler, A. A. N. past president, on the reorganization program of the national body. For the benefit of those who had not followed it, he traced the course by which the present set-up had been reached and explained its contemplated advantages.

On the conclusion of this address, Seth Kelsey moved that the by-laws of

the New England Nurserymen's Association be amended so that membership in the A. A. N. shall be required as a qualification of membership in the regional body, and that the officers be instructed to apply for a chapter in the national organization.

After some discussion, it was voted to call the roll of members who had paid their 1937 dues for an informal expression of opinion. Thirty-three favored the move, three opposed and one was neutral, but one of the three opposed, in view of the general approbation, moved that the vote be made unanimous. A final roll call showed a vote of 29 to 2 and six absent who had voted favorably on the previous roll call.

The closing session was given over to a talk on the northwest trails accompanying some excellent colored slides of mountains and lakes of the Pacific northwest, by A. C. Shelton.

Officers Elected.

New officers were elected according to the report of the nominating committee, as follows: President, Cornelius Van Tol, Falmouth, Mass.; vice-president, Seth Low Kelsey, East Boxford, Mass.; secretary, Lester Needham, Westfield, Mass.; treasurer, Frederick S. Baker, Cheshire, Conn.; executive committee, Joel Barnes, Yalesville, Conn.; V. J. Vanieek, Newport, R. I.; Winthrop Thurlow, West Newbury, Mass.

Banquet and entertainment were a pleasant intermission on the evening of the first day.

The following were chosen as delegates and alternates from the New England Nurserymen's Association chapter of the A. A. N. They are listed in the order that they will be chosen to go, preference from first to last as per ballot taken: Donald Wyman, Fred Baker, Joel Barnes, Lester W. Needham, E. Kaempner, Alex Cumming, Hugo De-

Wildt, Charles Williams, Clinton Wallace, Seth Kelsey, Louis Vanderbrook, Winthrop Thurlow, Lloyd Hathaway and Clifford Corliss.

MASSACHUSETTS MEETING.

Craig Stresses State Group Need.

The Massachusetts Nurserymen's Association, which was organized May 23, 1910, held its annual meeting at the Hotel Statler, Boston, January 11, with a large attendance. Secretary Winthrop H. Thurlow, who has served as secretary-treasurer for twenty-five years, read his annual reports, which were accepted.

William N. Craig, Weymouth, next gave his annual address, stating that he had served as president for four successive years and must retire. He spoke of the Massachusetts Nurserymen's Association as having a definite field of activity, which the New England and the national associations cannot handle. Recent concerted efforts to revitalize the A. A. N. and make it a more representative body are commendable so long as they are carried out in such a way as to let the smaller growers continue to belong, if they prefer, only to a state or regional body, he said.

Business in 1937 was described as fairly good, declining appreciably in autumn. The outlook for 1938 is cloudy, a fact for which labor troubles and the persistent assaults by the government on big business are accountable.

Well directed publicity is still the spark plug of business, he said. Publicity should be continuous rather than spasmodic, however. He advised growers to publish prices which would yield a reasonable profit and stick to them. With social security regulations out



New Officers of the New England Nurserymen's Association.
(Seth Low Kelsey, Vice-president; Cornelius P. Van Tol, President, and L. W. Needham, Secretary.)

of the way, one cause for worry is removed. The wages and hours bill is still threatening, but with a competent representative in Washington, the nursery interests are going to be better guarded, and all should be of good heart during 1938.

Seth L. Kelsey spoke for the proposed affiliation with the A. A. N., which he favored. But he was definitely opposed to anything which would hurt state and other existing bodies. They should be strengthened rather than weakened.

Fest Control Matters.

Ralph W. Sherman, of the bureau of entomology and plant quarantine of the Department of Agriculture, gave an interesting talk on the Japanese beetle situation; a series of motion picture films made it more realistic. R. H. Allen, state inspector, also gave an interesting address, confining himself largely to the great spread of the gypsy moth in the state during the past year.

Louis A. Reardon gave a survey of state-owned nurseries, which was illuminating. There are over 20,000,000 seedlings, mainly conifers, in some 550 acres of nursery. A good many ornamental shrubs are being cultivated, also, and large numbers are being given away. Prison labor has been used in part of this work, and the taxpayers last year were assessed over \$100,000 to support the work. In order to provide facts and figures to take before the legislature, a poll of sixteen of the nurseries represented at the meeting was made and showed that the sixteen voting had 3,425 acres of nursery stock and a pay roll of \$424,800.

Election.

Donald D. Wyman, Charles R. Fish and Heinrich Rohrbach were appointed a nominating committee and after lunch brought in the following list of officers to serve for the ensuing year: President, Lloyd A. Hathaway, of Littlefield-Wyman Nurseries, North Abington; vice-president, Cornelius Van Tol, of H. V. Lawrence Nursery, Falmouth; secretary-treasurer, Winthrop H. Thurlow; executive committee, W. N. Craig, Seth L. Kelsey, Louis A. Reardon and Peter Mezitt.

It was stated that a bill is before the state legislature that strikes at the discriminations of a number of states which now require fees or bonds from nurseries shipping within their boundaries. Similar charges for all shipments made here are to be made against these states.

George Graves, nursery culture professor at the market garden field station, Waltham, spoke on "Technical Advances in Plant Propagation." He emphasized the various growth and root-stimulating substances, which brought out considerable discussion, pro and con. The general opinion seemed to be that on softwood, easily rooted subjects there is nothing to be gained by using the substances, but with more woody material they are advantageous, if rightly used.

William H. Judd, of the Arnold Arboretum, Jamaica Plain, was the last speaker and talked interestingly and humorously on his trip to Europe last year in the interests of the arboretum. He visited leading gardens and nurseries in England, France, Germany and Holland.

LONG ISLAND MEETING.

The seventh annual meeting of the Long Island Nurserymen's Association was held January 13 at the Hotel Huntington, Huntington, N. Y. The roll call showed twenty members present.

President P. M. Koster, in his report, expressed a belief that there had been and would continue to be a general improvement in the nursery business.

The finance committee reported through its chairman, H. A. Naldrett. He gave an analysis of association expenses for the past three years, to determine the main units of expense. They were found to be the annual meeting, the meeting with the Long Island Horticultural Society, the delegates' expenses, the secretary's office expenses and the dues to affiliates. Mr. Naldrett proposed the following membership fees to augment the treasury: For total income up to \$15,000, \$10; from \$15,000 to \$25,000, \$15; over \$25,000, \$20. This plan was put in the form of a resolution and regularly adopted.

The exchange committee reported through its chairman, Jac Bulk, recommending the issuance of the exchange bulletin for 1938. Several members expressed their opinion that the exchange bulletin was one of the best of the association's regular projects and urged its enlargement. It was voted to continue the bulletin for the year.

For the special Japanese beetle committee, P. M. Koster, chairman, reported on its meeting with Lee A. Strong, head of the federal plant quarantine bureau, in New York, January 7. Mr. Koster said he expected good results from the meeting in the direction of lessening several unnecessary restrictions in Japanese beetle nursery inspections.

H. A. Naldrett, on behalf of the association, presented G. Clifton Sammis with a hand-wrought silver tray as a token of the association's esteem for Mr. Sammis and for his invaluable services as secretary during the several years before his resignation.

Mr. Koster appointed Mr. Bulk and M. Ottavanger a committee to confer at the coming hearing at Albany before Commissioner Noyes, of the state department of agriculture and markets.

Before calling on the nominating committee, Mr. Koster stated his inability to accept the renomination for president for the coming term. Mr. Sammis, chairman of the committee, then proposed the following slate, which was elected: President, Flemer Foulk; vice-president, L. H. MacRobbie; secretary, G. B. Hart; treasurer, M. Ottavanger; executive committee, member for three years, P. M. Koster.

After luncheon, the following spoke: Leslie Scott, president of the Allied Retail Nurserymen's Association; Fred Osman, secretary of the Council of Eastern Nurserymen; R. P. St. John, assistant farm bureau agent of Nassau county; Paul B. Jones, assistant farm bureau agent of Suffolk county; Mr. Gray, of the landscape department of Farmingdale School; Carl Wedell, new head of the department of horticulture, Farmingdale School. F. J. VanMelle, secretary of the Allied Retail Nurserymen's Association was also present.

At this point Mr. Foulk took over the conduct of the meeting and opened a discussion on fixing minimum prices for nursery stock. It was the general opinion of the meeting that experience

had shown attempts at nursery stock price regulating to be impracticable.

Mr. Bulk gave his opinion, and was supported by several members, that good nursery stock was still scarce and that a return of good business conditions would illustrate that fact by a rise of prices.

A motion was passed that the annual meeting of the association with the Long Island Garden Clubs should be held again, in March, at the Garden City hotel. Some of the preliminary plans of the exhibit committee were discussed, and a great deal of interest was evinced even at this early date. Mr. Koster recommended the abundant use of blooms as decoration, as in the past years, and it was decided to attempt forcing azaleas and other shrubs for the meeting. This meeting, as the general discussion showed, is considered the best of the association's annual projects. G. Bradley Hart, Sec'y.

NEW GEORGIA GROUP MEETS.

The recently organized Georgia State Nurserymen's Association held its first annual convention at the Hotel Dempsey, Macon, January 10. The association had its inception last September, when fourteen representative nurserymen of the state met at Atlanta under the chairmanship of James G. Baille, Augusta. At that time an application for charter was made to the American Association of Nurserymen, and officers were elected, as follows: President, A. L. Monroe, Atlanta; vice-president, Samuel C. Hjort, Thomasville, and secretary-treasurer, H. T. Conner, Macon.

At the Macon meeting, which was presided over by President Monroe, about fifty nurserymen were present. A constitution and by-laws read by Davenport Guerry, Macon, were adopted. H. T. Conner, who resigned his position as secretary-treasurer, was replaced by J. G. Barrow, Atlanta.

The first guest speaker was Kendall Weiseger, official of the Southern Bell Telephone & Telegraph Co., Atlanta, who spoke on "Soil Erosion." He pointed out that each year valuable topsoil is being washed away by rivers and streams, and he urged a program of terracing river banks and extensively planting sloping areas where such erosion is occurring.

"It is not an undertaking the federal government can or should accomplish alone," Mr. Weiseger said. "We should make our own state and our own counties do their part." He suggested that county commissioners be asked to purchase terracing machines, and if this did not meet with success, the nurserymen should take the lead in organizing groups of citizens to purchase such a machine on a co-operative plan.

M. S. Yeomans, state entomologist, Atlanta, presented colored moving pictures of destructive insects prevalent in Georgia. A resolution was adopted to request an emergency appropriation from the Georgia legislature for combating these pests, and a telegram to that effect was sent to Speaker Roy Harris of the Georgia house of representatives.

A discussion of the social security act and other measures affecting nurserymen occupied the afternoon session.

Atlanta was chosen as the scene of the next convention, which will be held in January, 1939.

Three Meetings at Trenton

Sessions of Eastern Association, New Jersey Association and State A. A. N. Chapter Fill Three Days During Farm Show

FORM NEW JERSEY CHAPTER.

Between sessions of the state association convention, New Jersey members of the American Association of Nurserymen met January 25 at the Hotel Hildebrecht, Trenton, and formed a state chapter of the national body.

Previously it had been proposed that an eastern regional chapter be formed to include the territory represented in the Council of Eastern Nurserymen. But the decision to form a New England chapter left as participants in the plan the members in Pennsylvania, New Jersey and eastern New York, including Long Island.

To follow more closely the intent of the reorganization plan of the A. A. N., John J. Jennings proposed that the New Jersey nurserymen form their own state chapter. Charles Hess still favored joining in the larger group, but most of the eighteen New Jersey A. A. N. members present—out of the twenty-three A. A. N. members in the state—had formed no opinion on the matter. Discussion followed as to the respective merits of the two plans, Robert Pyle, West Grove, Pa., speaking forcefully in behalf of the larger chapter. When finally the proposal was put to a roll-call vote, the decision was 13 to 5 in favor of New Jersey forming its own chapter.

Thereupon election was held of delegates to the board of governors of the A. A. N., and Charles Hess, J. J. Jennings and William Flemer, Jr., were chosen. As alternates, Fritz Hendrickx, Samuel E. Blair and B. R. Leach were elected.

Fred Osman acted as chairman, and Louis C. Schubert as secretary of the meeting.

EASTERN ASSOCIATION.

About thirty attended the meeting of the Eastern Nurserymen's Association at the Hotel Hildebrecht, Trenton, N. J., January 24, when President Carl Flemer called the morning session to order. Minutes were read by Secretary Russell Harmon, and the report of the treasurer, Albert F. Meehan, showed such a strong financial position that dues for this year were reduced from \$10 to \$5 by later vote.

R. T. Brown, Queens, N. Y., chairman of the committee on investigation of azalea flower spot disease, said a printed bulletin would appear shortly and be mailed to members.

E. H. Costich, chairman of the special quarantine committee, called attention to problems of nurserymen in the Japanese beetle quarantine area, and discussion of this subject occupied a considerable portion of the morning and also of the afternoon, when C. H. Hadley, of the beetle laboratories at Moorestown, N. J., told of advances in the treatment of nursery stock for the Japanese beetle. Mr. Sherman reported on beetle findings and territorial expansion, and Dr. W. E. Fleming contributed to the discussion.

Lee A. Strong, chief of the bureau of

plant quarantine, came up from Washington, D. C., to talk on quarantine 37, repeating remarks delivered two weeks ago at the Chicago convention. Because of his appearance in the morning before a congressional committee at Washington, it was feared he could not come, and E. R. Sasser was present to pinch-hit, but Mr. Strong himself arrived. He said that he was preparing a statement setting forth the inconsistencies he found in quarantine 37, which would later be presented to nurserymen for their suggestions.

Richard P. White, executive secretary of the American Association of Nurserymen, talked on the problems which have the attention of the newly opened Washington office.

The meeting closed with the election of officers. L. C. Bobbink, Rutherford, N. J., declined the office of president, for which he was slated by the nominating committee, and was thereupon reelected vice-president, and Frank S. La Bar, Stroudsburg, Pa., vice-presidential nominee, was elected president. Albert F. Meehan, Dresher, Pa., was reelected treasurer. The secretary is Russell Harmon, Stroudsburg, Pa. On the executive committee were elected C. W. M. Hess, Mountain View, N. J.; Harry C. Sims, Riverton, N. J., and Eugene Boerner, Newark, N. Y. Hold-over members are J. H. Humphreys, Philadelphia, and Edwin Hoyt, New Canaan, Conn.

NEW JERSEY CONVENTION.

President's Address.

The annual meeting of the New Jersey Association of Nurserymen held at the Hotel Hildebrecht, Trenton, January 25 and 26, attracted the largest attendance in its record. About 100 were in the room for the opening business session, and even more attended the informative round-table discussions at the subsequent sessions. To induce larger membership, it was announced that the executive committee had decided to waive the initiation fee on applications presented during January. This was done in view of the excellent state of the treasury, August G. Kindgrab reporting a balance of over \$600 on hand. Secretary L. C. Schubert reported the addition of ten members in the past year.

In his address as president, Col. Edward Phillips dwelt on the necessity of confidence to attaining prosperous business conditions. The increased interest in home ownership of late, he felt, indicated a favorable future for nursery enterprises. Reviewing the achievements of the association during the past year, which included the distribution to members of a monthly bulletin, *Horticultural Topics*, he recommended further service to them in the form of a stock book, to promote trading among New Jersey nurseries. As a committee to report on the recommendations in the address, Vice-president Paul Hoverman appointed Robert F. Greene, chairman; Otto Bergman, and William Halliey. The committee favored the pro-

posal of a stock bulletin and recommended that the matter be taken under advisement by the executive committee.

State Nursery Census.

Figures from a census of New Jersey nurseries covering 1936 business were given by Frank A. Soraci, chief nursery inspector. Of 435 nurseries in the state 203 did less than \$500 annual business. One hundred and sixty did more than \$1,000 per year, and seventy-nine of these did more than \$5,000.

The 203 small nurseries aggregated 212 acres, with an average investment of \$1,113 per acre, a total investment of \$236,675 and a total annual business of \$24,383.

Of the 232 nurseries doing a business of more than \$500 in 1936 the total acreage was 4,376 and the total investment \$9,354,936, or an average investment per acre of \$2,138.

Their total annual gross volume was \$3,505,808, of which wholesale business was \$1,898,088 and retail business was \$1,586,720.

Employees of these nurseries had a total average of 1,600, the May high being 2,500 and the February low 900, amounting to one employee for each two and one-half acres of nursery stock.

Of 4,588 acres planted to nursery stock in the state, 114 were in fruit, 2,600 in evergreens, 971 in flowering trees and shrubs, 480 in deciduous shade trees and eighty-three in field roses.

Reporting as chairman of the legislative committee, William Flemer, Jr., briefly discussed unemployment insurance as it affected nurserymen in the state and introduced Edgar Smith, an attorney of Princeton, who discussed it in more detail. He stated that no broad ruling might be expected from the state commission as to which nursery employees would be affected and which exempted, advising that individuals present their particular problems to the commission for decision.

Landscape Sales.

Beginning the round-table discussions at the afternoon session, Robert F. Greene talked on "Landscape Sales." He declared that a salesman should know plant materials, landscape design and something about architecture and construction. He should have good taste in the selection of ideas and the ability to make and keep friends.

As to method of approach, he said that on a so-called "cold" contact, some subject should be sought which might be developed to engage interest. When the salesman is partly known to the prospect, as by letter of introduction, some suggestion may further the contact, as pointing out an objectional view of a neighbor's service area which may be screened by planting. When the salesman and his firm are well known to the prospect, a complete planting job may be sought.

He believed that the best material for the purpose should be recommended on any planting job, not that which may be easiest to sell. Care is essential to carry out plans so as completely to please the

customer and make him a permanent friend.

He suggested as a point for contact with prospects that of planting shrubs about the house for safety, mentioning incidents of children falling out of windows without resulting injury because they landed in shrubs.

In subsequent discussion as to sales on the installment plan a division of opinion developed, but B. R. Leach said he had "gone to town" on the idea. It was felt advisable not to mention a carrying charge, but to quote a slightly higher price to cover it.

Division of opinion also developed whether one should attempt to sell a garden one step at a time or to formulate a complete planting program at once.

William Miller told of using his men in autumn and winter to trim up customers' plantings, doing it the first year free and thereafter charging for the service.

Roadside Stands.

William P. Howe, Pennington, talked on roadside stands, which he operates under the name of plant markets. He listed the factors of display and service. The former included size, shape and type of material offered. The variety of material was governed by both display and service, while packaged plants came under both headings, for appearance and handiness, respectively. Flowering plants are important in display for their color.

Matters of service were mentioned as personnel, delivery, planting advice, price tags and the hours open during the day.

Advertising by direct-mail and in the local newspapers brought in customers, and they in turn brought their friends.

Discussion revealed some disapproval of roadside stands as a means of marketing nursery stock, but Mr. Howe pointed out much of this was based on the unsatisfactory methods employed in the early years of this type of marketing. B. R. Leach said that a stand operated several week-ends in spring brought real returns in cash, one as much as \$800, and azaleas, dogwood and flowering crab moved especially well.

Mr. Leach led the discussion on "Sales at the Nursery," mentioning several ideas that had brought excellent results in his twelve acres at Riverton. He had cut roads so that every block of plants was accessible to inspection from an automobile. Large specimens were planted on the highway to give an established character. The more elaborate the layout, the fewer working-class buyers came, but this was overcome to some extent by providing salesmen of different types to make contacts with the various classes of buyers. By making his nursery known locally, he eliminated "cold" selling. He told of reading the social columns in the daily newspapers as a means of knowing his customers.

The other topic of the afternoon was "Extending the Sales Season," and Fritz Hendrickx, Rutherford, read a paper full of suggestions how it might be done by planting in containers and setting them in a display garden. His excellent paper will be published in full in the next issue.

For the vigilance committee, William Halliey brought up the matter of plant patents and George Jennings, chairman, raised several pertinent questions. One was as to the accuracy of information broadcast by radio as to the proper time for planting evergreens. He asserted action should be taken so that the state nursery would confine its production of

stock strictly to that for forestry purposes. Asserting that \$10,000,000 spent so far on eradication of the Dutch elm disease had resulted in the removal of 20,000 trees, he thought that the cost could be reduced from \$500 per tree to \$100 per tree at the most.

Visit Farm Show.

After the sessions the nurserymen visited the New Jersey farm show, at the Armory near by. The New Jersey Association of Nurserymen contributed several exhibits. One was a group of evergreens set up for the association by the Somerset Nurseries, B. R. Leach, Plainfield Nurseries and Howe Nurseries. Another was a dooryard planting, planned and executed by the Princeton Nurseries, each plant plainly labeled. Planting plans for a farm home were shown by several nurseries.

Bobbink & Atkins, Inc., Rutherford, displayed some specimen evergreens, balled and burlapped, in the meeting room at the hotel.

At the banquet in the evening, W. H. Allen, state secretary of agriculture, was the speaker and guest of honor. Generous entertainment followed.

Second Day's Sessions.

For the market committee, Fred Osman reported that the association's bulletin, *Horticultural Topics*, could be more successful if extended to represent the entire Council of Eastern Nurserymen. A motion prevailed to refer this matter to the executive committee with power to act.

Mr. Morriston, of the Public Service Co., thanked the members for taking part in the autumn showing of the Public Service House Practical, at Newark, and invited them to take part in the show next spring. This matter was referred to the executive committee.

Introduced by Fred Osman, Governor Harry Moore gave a brief talk on cooperation between business men and the government.

"New Material as an Aid in Making More Sales" was the subject of the round-table discussion led by L. C. Schubert, who dwelt not only on new material but also on plants that are not new, but still unfamiliar to the gardening public.

"Balancing the Inventory" was discussed by William Flemer, Jr., in the absence of Lester C. Lovett, vacationing in Florida.

Colonel Edward Phillips talked on labor and the nursery business, after which Harry C. Sims told of his experience with labor at Riverton.

Richard P. White, closely associated with the nurserymen of the state while at the experiment station, was presented by President Phillips with a testimonial of achievement. Mr. White told of his new work as executive secretary of the American Association of Nurserymen, explaining the various measures of legislation which affect its members.

Mr. White then presented Mr. Gibbs, of the Merck Chemical Co., who gave an illustrated talk on hormones and root cuttings, which was followed by discussion of the broad field of hormones, by F. K. Jones, consulting chemist.

Officers Elected.

Concluding the meeting, the nominating committee offered the following candidates for office, who were unani-

mously elected: President, Charles Hess, Mountain View; vice-president, Walter M. Ritchie, Rahway; secretary, L. C. Schubert, New Brunswick; treasurer, August Kindsgrab, West Orange. The executive committee for the ensuing year includes also F. W. DeBree, Plainfield; Thomas Windon, Whitesbog; Kurt Meyer, Hackettstown, and B. R. Leach, Riverton. The membership committee consists of William Halliey, Clifton; C. Sprigman, Princeton, and George Jennings, Ralston.

NORTH JERSEY MEETING.

Although expressing doubt that the nursery business during the coming year would be better than in 1937 because of the current recession, the future over a long period of about ten years is bright, Prof. W. Frank Knowles, of the state economics and farm management department, told members of the North Jersey Metropolitan Nursery Association, meeting in the county administration building at Paterson, January 27.

The proposed federal housing program will better conditions in the nursery business, Professor Knowles stated, by causing an increase in demand for nursery products. He also told the nurserymen they could improve their own business by seeking new and untried fields, such as farms, grange halls and churches. The speaker further suggested a potential field for nurserymen existed among those in the lower income brackets. He also told how to establish a simple and practical bookkeeping system, stressing inventory and inventory taking procedure.

In conjunction with the meeting, which was directed by President Charles Hess, announcement was made that florists of the north Jersey area, encouraged by organization achievements of the nurserymen's group, have taken initial steps toward an organization of their own.

EXTEND ELM QUARANTINE.

An extended area in New Jersey has been placed under quarantine for 1938 because of the Dutch elm disease. W. H. Allen, secretary of the state department of agriculture, has announced, in promulgating the new rules and regulations for diseased trees and the repeal of the 1936 regulations. Mr. Allen explained that the need for the increased quarantine area did not indicate heavy infection in that territory, but rather precautionary measures to prevent an increase or spread of the disease.

LANDSCAPE GROUP ELECTS.

The annual banquet and election of officers of the Columbus Landscape Society took place at the Charminai hotel, Columbus, O., January 11. All officers of the past year were reelected to office; they are Harold Esper, president; L. C. Chadwick, vice-president; B. H. Kleinmeier, treasurer, and Stanley Speed, secretary.

THE Central California Nurserymen's Association held a dinner meeting at the Dominic café, San Mateo, January 13. New members of the association announced are Sidney Bryant, of the Daly City Nursery, Daly City; A. S. Nabeta, of the San Pablo Florist & Nursery, Berkeley, and Herbert Taylor, of the Berkeley Horticultural Nursery, Berkeley.

Ohio Association Meets

*Varied Subjects Discussed at Annual Meeting at Columbus,
Featured by Completion of First A. A. N. Chapter Organization*

The thirty-first annual meeting of the Ohio Nurserymen's Association held at the Deshler-Wallick hotel, Columbus, O., January 20 and 21, was opened by D. B. Cole, vice-president, in the absence of the president, W. A. Natorp. The entire morning session of the first day was devoted to a business meeting. The status of the social security act was discussed in some detail.

The new officers elected at the session were: President, D. B. Cole, of the Cole Nursery Co., Painesville; vice-president, Howard Scarff, of W. W. Scarff's Sons, New Carlisle, and secretary-treasurer, W. G. Siebenthaler, of the Siebenthaler Co., Dayton. The three new members of the executive committee are Howard Chard, of the Storrs & Harrison Co., Painesville; Harry S. Day, of the Fremont Nursery, Fremont, and Peter Cassinelli, of the Glendale Nurseries, Cincinnati.

The afternoon session was opened with a talk on "Sales, Credits and Collections" by E. F. Donovan, credit manager of the F. & R. Lazarus Co., Columbus. Mr. Donovan stressed the importance of retail credit in modern business. Credit should be extended only after careful investigation of the character and capacity to pay of the client. All collections should be followed up as specified in the contract. The percentage of loss on installment accounts is small, he said. Mr. Donovan is a firm believer in the education of a concern's salesmen and believes everything possible should be done to acquaint them with the business before they are qualified to represent the concern.

Legislation Discussed.

Robert S. Brown, editor of the Columbus Citizen and formerly Washington correspondent for the Scripps-Howard news syndicate, discussed "The Changing Scene." New deal policies, especially the social security act, stock market control, the Wagner labor act and the men behind the new deal, were discussed. The present situation was correlated as closely as possible with future policies as they might affect the nursery business. The evening, a bright spot in every meeting of the association, was devoted to the sixth annual "Ye Olde Time" dinner and dancing.

Friday morning's program opened with a discussion, "Is the Japanese Beetle Spreading?" by H. S. Chard. Statements released by L. A. Strong, of the bureau of entomology and plant quarantine of the United States Department of Agriculture, indicate no general extension of the quarantine area this year. The main infested sections in Ohio not in the quarantine area during 1937 are Akron, Ashtabula and Marietta. Arsenate of lead will be applied to seven acres in Ashtabula, five acres in Marietta, and possibly some in the principal infested sections of Akron. Define strides in the eradication of this pest seem to have been made during 1937, and the program under consideration for Ohio during 1938 should further reduce the infestations.

P. A. Alderman, state forester, Woos-

ter, discussed "The Idle Land Problem in Ohio." State and national policies of land use were outlined.

One of the most outstanding lectures of the session was given by J. J. Grullemans, of the Wayside Gardens Co., Mentor, on "New Perennials." Among the new perennials mentioned by Mr. Grullemans were:

Alyssum Citrinum
Anemone Mauve Moncharme
Anthemis Moonlight
Columbine, Wayside hybrids
Aster Dawson, Mammoth, Frikartii and Wonder of Stafa
Clematis Ascotensis, Boushard, Crimson King, Lawsoniana, Lord Nevile
Chrysanthemum asteroides, Endeavor, Silver Star
Chrysanthemum maximum (Shasta daisy), J. & E. and Elliott varieties
Delphinium, Wayside hybrids
Funkia Thomas Hogg
Fuchsia, hardy varieties
Gaillardia Sun God Improved, Ruby, Sherbrook
Geum Fire Opal
Gypsophila paniculata flore pleno and hybrid colored varieties
Helenium pumilum magnificum
Hemerocallis Hyperion
Iris germanica Jean Cayenx
Lupine, Russell hybrids
Monarda Salmon Queen
Oriental Poppy Cavalier, Purity, Jeannie Mawson, Mrs. Perry, Flaming Snow
Petroselinum atriplicifolium
Primula Daffodil Shrub and Arendsi Marianne
Primula vulgaris tatarica flore pleno
Physostegia Summer Glow, Rosy Spire
Stokesia Blue Boy
Tritoma Towers of Gold
Verbena venosa Brilliant
Veronica Blue Spires

The afternoon program was opened with an address on "Some Specific Ways in Which Workmen's Compensation Rates May Be Reduced," by George H. Jarvis, insurance expert of Columbus. Among the outstanding points mentioned by Mr. Jarvis were that all men in the trade who are eligible should be enrolled under the compensation act, claims should be reported promptly and followed carefully and men should be put back to work as soon as possible. Also, safety programs for employees should be sponsored by employers. Some concerted action on the part

of the Ohio association will be undertaken.

The session closed with a comprehensive review of the social security and other state and federal laws as they affect nurserymen by Miles Bryant, Princeton, Ill.

L. C. C.

FORM FIRST A. A. N. CHAPTER.

A meeting was called January 20, at 12:30 p. m., at the Deshler-Wallick hotel, Columbus, O., of all the Ohio A. A. N. members, for the purpose of electing officers and adopting by-laws for chapter No. 1 of the A. A. N.

Clarence Siebenthaler, Dayton, in his eloquent manner, explained briefly and to the point the importance of the meeting, as without the proper formation of the chapter the members could not participate in the A. A. N. convention business activities calling for delegate votes. Mr. Siebenthaler acted as temporary chairman, appointed such by the thirty-one members present.

A nominating committee was appointed as follows: Thomas Kyle, Tippecanoe City, chairman; Howard Chard, Painesville, and Miss Frances Dubois, Cincinnati. The nominations submitted were: For president, D. Barrett Cole, Painesville; vice-president, Howard Scarff, New Carlisle; secretary-treasurer, Herman Brummé, Cincinnati, and executive committee, the three persons named and Clarence Siebenthaler and Howard Chard. The temporary secretary was unanimously instructed to cast the necessary ballots to elect the officers.

The January 21 meeting was called at the same place and hour as the previous session, with President Cole presiding. After the reading of the minutes of the previous day's meeting by the secretary, Miles Bryant, Princeton, Ill., was introduced to the chapter members. Mr. Bryant told how happy he was to have the honor of presenting the first charter. This, of course, brought a tremendous ovation from all present.

The same nominating committee previously named brought in the names of the following for A. A. N. delegates: Howard Chard, Clarence Siebenthaler, Howard Scarff, D. Barrett Cole, Thomas Kyle, Herman Brummé, Arthur Chapman, Perry; Raymond Inlay, Zanesville; J. Howard Burton, Casstown; Warren Weiant, Newark; E. O. Carr, Yellow Springs, and W. A. Natorp, Cincinnati.

These members were voted upon by secret ballot and elected in the order named, the procedure being that the two first-named are definite delegates under the by-laws, whereas when the proper number of delegates is definitely determined as notified by the executive office of the A. A. N. as dues are paid, any additional delegates will be added in the order listed. The rest will act as alternates in the order listed.

The by-laws were gone over line by line and adopted, using the same method as with the A. A. N. by-laws in Chicago, and the president insisted that these by-laws be adopted unanimously and by roll call, which was done.



Herman Brummé.

Ohio Short Course

Summaries of Valuable Talks in Two Days' Sessions at Ohio State University

After being held for two years in zero, and in the case of last year in subzero weather, the Ohio nurserymen's short course, sponsored by Ohio State University, Columbus, was held last month during fine weather, with the result that it was the largest and most successful ever given in the state for nurserymen, landscape gardeners and arborists. Among the 175 registered were members of these groups from nine states as well as the District of Columbia and Canada, most of whom were present throughout the 2-day sessions, held in the Horticulture building of the university, Tuesday and Wednesday, January 18 and 19.

The school was opened by Dr. L. C. Chadwick, of the university, in the middle of the morning Tuesday, with a discussion of experimental work on ornamentals during the past year. Regarding the test which has been running since 1931 on the fertilization of *Ulmus americana*, this year's results continued to verify the following: Ample moisture is necessary for a favorable response of small trees to applications of fertilizers; fall applications continued to be more favorable than spring applications for securing response; a complete fertilizer high in nitrogen and a mixture of ammonium sulphate and superphosphate were found most satisfactory; ammonium sulphate alone gave but little response; potash applications did not benefit the trees growing in this particular soil, and ample moisture is seemingly more important with the trees growing on this test than are any additional applications of fertilizer. He also stated that the use of aluminum sulphate and sulphur either separate or in conjunction with iron sulphate has shown promise of having merit for the correction of chlorosis of pin oaks.

Root Distribution.

Dr. Chadwick mentioned the experiment in which root distribution was studied on a large number of 7-year-old transplanted Moline elms in which the following conclusions were made: The radius of the spread of the roots is twenty-five to thirty times the diameter of the tree one foot above the crown; most of the fibrous roots were found just above the B horizon of the soil and in the lower part of the A horizon, and if the word "feet" be substituted for "inches" in the measurement of the trunk, one-half of the roots will be found within that radius of the tree. He stated that many of the so-called 2-year seeds can best be handled by stratifying in a moist medium for about three months at 65 to 70 degrees, followed by a similar period at 40 degrees, and finally he showed that considerable root stimulation can be expected by soaking the roots of some deciduous shrubs in growth-promoting substances.

Growth-promoting substances as an aid to rooting ornamental cuttings were discussed by D. C. Kiplinger, who went into some detail to clarify in the minds of all present the best method of making up the solutions for treating cut-

tings if one wishes to make up his own solutions. If a nurseryman intends to try these substances on a small scale, it is advised that he use one of the commercial preparations on the market.

Growth Stimulation.

Results at the university up to this time show that 1, 3 and 5 milligrams of growth substance per 100 c.c. of water with treatments of six to twenty-four hours in most cases give the best results; likewise, with a great range of ornamental materials, treatment with these substances increases the percentage of rooting and the amount of roots within a given time and also reduces the time required for rooting.

The greatest response is nearly always noted—for any one species—on cuttings taken in the spring just prior to the most rapid expansion of the current season's growth. These growth substances are not a cure-all for all the troubles confronting the propagator, and it is really up to each firm to decide whether the benefits derived from these treatments are important enough to warrant its using them. Sheets were passed out showing the results of treating cuttings of some 100 different species of ornamental plants in the university greenhouses the past season.

As an innovation during this year's program, the entire afternoon program Tuesday was given over to a discussion of shade trees, with Dr. Chadwick serving as leader.

Shade Trees.

Dr. Chadwick first spoke concerning the sources of trees and stated that

nursery-grown trees are considerably better than native trees, provided correct nursery practices have been afforded them. In selecting a tree, the following things should be considered: Source of supply, hardiness, rapidity of growth, immunity from insect and disease, shade tolerance, character, cleanliness and longevity.

Among those he suggested as large trees for streets and lawns were the following: *Acer platanoides*, *A. saccharum*, *Fagus sylvatica heterophylla*, *Platanus orientalis*, *Liquidambar*, *Styrax*, *Quercus alba*, *Ulmus americana*, *U. americana* *Moline* and *U. campestris*. The medium-height trees mentioned included: *Acer pseudoplatanus*, *A. rubrum*, *Phellodendron sachalinense*, *Quercus coccinea*, *Q. imbricaria*, *Q. palustris*, *Q. Phellos*, *Q. rubra*, *Sophora japonica* and *Tilia euchlora*. Among small-growing trees suitable for this purpose were recommended: *Acer campestris*, *Cladastis lutea*, *Cornus florida*, *Crataegus cordata*, *Koelreuteria paniculata*, *Magnolia Soulangiana*, *Malus theifera*, *M. torquata*, *M. Arnoldiana* and *Syringa japonica*.

This was followed by a treatise concerning lightning protection of trees, which was given by A. Robert Thompson, of the national park service, Washington, D. C. He listed the types of lightning damage to trees as internal injury, damage to the root system and physical shattering of the entire tree. Mr. Thompson then went into some detail as to the principles of tree protection and explained air terminals, conductors, joints, sideflashes, attachments, ground terminals, ornamentation and also the maintenance of the system.

The methods and practices of tree moving were ably handled by M. G. Coplen, Rockville, Md., and Charles F. Irish, Cleveland.

Tree Moving.

Among important things brought out in Mr. Coplen's talk were: Practically all varieties of trees, if in a thrifty

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condition and taken from suitable soil and exposure, can be successfully transplanted at any time if the operation is performed with skill and a reasonable amount of judgment is shown in caring for them after transplanting. However, in his particular section he recommends to clients elms, pin oaks, maples, lindens and willow oaks, since they are available in sizes six to fifteen inches in diameter and can be moved at any time successfully. Chinese magnolia, tulip poplar, sweet gum, dogwood, hawthorn, white oak and beech can be best moved either in the spring before the leaves are fully grown or early in the fall soon after growth hardens. On the other hand, broad-leaved evergreens, such as holly and magnolia, do best in that section when transplanted late in May or early in June, when almost everyone thinks it is too late to do such work.

As a preparatory treatment, the trees are usually root pruned previous to moving and an application of fertilizer is worked into the soil, after which the ball is mulched heavily with manure, straw or leaves. In digging the tree, a trench is dug about two feet wide around the ball and, beginning twelve to eighteen inches from the surface, the ball is tapered toward the center or taproot, with the bottom of the ball being about two-thirds the size of the top. Then the ball is burlapped and roped or covered with 6x6-inch fencing of a No. 10 gauge and the tree is placed on the mover. The hole where the tree is to be moved should be just as deep as the ball and about two feet wider, with this added space being filled in with good soil. The bottom of the hole is slanted in the direction in which the drainage is to be run and ample drainage is supplied.

The tree is set in position even a little higher than it stood originally and the soil tamped firmly around the ball of the tree, after which plenty of water is applied and the foliage also watered over the top in hot and dry weather. The tree is wrapped with two thicknesses of burlap and guyed in place. It is necessary to check the condition of the transplanted tree several times during the first season.

Mr. Irish also revealed many points of interest to be considered in tree moving. The selection of the tree is influenced by the client's wishes, his object or purpose in planting the tree; the space available for the tree, the environment about the new location, the trees available in the size wanted and the season the tree is wanted. He likewise explained his firm's system of digging trees, which is essentially the same as that explained by the previous speaker, except that a different tree mover is used. Mr. Irish warned all persons who intend to do any of this work to familiarize themselves with local or city ordinances which might affect this operation, as well as state highway regulations, and stated that the care of the tree after transplanting is just as important as the moving and that, if one is to be successful, he must watch every operation to be sure enough of himself to guarantee his work.

Wound Dressings.

In his interesting talk concerning wound dressings, Dr. Paul Tilford, of the pathology department of the Ohio

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agricultural experiment station at Wooster, stated that the reason for such dressings obviously is to prevent the infection of the tree by wood-rotting fungi. While it is usually unnecessary to treat wounds on the branches of conifers, all wounds of any consequence on branches and trunks of deciduous trees should be treated. A good wound dressing should, in addition to protecting against the entrance of microorganisms, be noninjurious to the cambium, must be easily applied in either summer or winter and must not melt in the summer or become hard and crack or flake off in the winter. In addition, it must adhere to fresh wounds, must protect the wood beneath from drying out and checking and must not be unsightly. As to the most satisfactory materials to use, it has been found after considerable tests that asphaltum paints free from creosote have given better results than any others.

Bracing.

Mr. Thompson then returned to discuss bracing materials and practices. But a few of the many worth-while points brought out in his talk are: Reasons for bracing include the presence of split or tight V-shaped crotches, susceptibility of some species to split,

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decay of parts of the tree, cut or shallow root systems, prevalence of high winds, sleet storms, etc., and increased exposure due to the removal of protection for the tree. He stated that the use of long rigid bars high up in the tree, iron collars, chains and various systems of wires and chains is distinctly obsolete and may actually do more harm to the tree than good.

He listed the following as being modern equipment and materials to be found in supply houses for this work: Galvanized, copper or copper-covered wire and strand; galvanized lag hooks, hook

bolts or eyebolts; galvanized and bronze thimbles; threaded galvanized and duralumin screw rod with hexagonal or eye nuts to fit; round, oval or diamond-shaped washers, and special tools and drills to fit pneumatic and electric power units.

He said that the simplest type of cable brace is a single line of cable placed between two limbs arising from a single crotch and that the weakness of this type is that practically no lateral support is given the weak limbs. While the triangular system of bracing is strongest from the engineering standpoint, the box system comes closest to nature's own method of supporting, since it permits free crown movement. Methods of crotch bolting were explained in some detail. When two limbs develop so that they rub together, one should be removed, unless its removal would seriously detract from the tree's appearance, in which case it must be securely braced.

Charge for Diagnosis.

Concerning other problems of tree maintenance, Mr. Irish set forth the following ideas: While success in arboreal service depends on one's ability to serve clients at a price satisfactory to them, nevertheless any diagnosis justifies a charge, since it requires much study and practice and a knowledge of many sciences correctly to make such a diagnosis. To make a thorough diagnosis one must consider nutrients in the soil and tree and just how they are used up by the tree; have a knowledge of insects and diseases, spraying, sanitation and the effect of gas injury on trees; know how to brace and prune a tree, and possess a complete knowledge of tree surgery and cavity filling, in addition to tree moving. Such knowledge can only be gained after years of actual experience in this work, together with plenty of common sense, as each individual case is a problem in itself.

Tuesday evening, a dinner was held in the ballroom of the Southern hotel, with about 130 persons in attendance. Dr. J. H. Gourley, head of the department of horticulture of the university, acted as toastmaster and extended a welcome to those present.

Rare Shrubby Plants.

Henry J. Hohman, Kingsville, Md., described a large number of new and rare plants of shrubby character that have been found satisfactory in his section of the country. Among these were the following:

Abelia Gouqueri—cross between *A. grandiflora* and *A. Schumannii*. Its flowers are almost twice as large as those of *grandiflora* and it flowers July to September.

Betula japonica—white-barked birch up to eighty feet high; hardy in parts of the northern states.

Buxus Harlandii—Korean boxwood having three distinct growth habits—upright, low-rounded and intermediate; hardiness questionable.

Buddleia Lindleyana sinuato-dentata—four feet high, with dark purplish flowers, which has been found hardy.

Chionanthus retusa gets to be a tree twenty feet high, with showy flowers, blooming in June and July.

Cornus florida pendula.

Cornus florida plena—double-flowering form.

Cornus florida Welchii—leaves margined with yellow and silver.

Cornus florida xanthocarpa has yellow fruits.

Corylopsis sinensis—very early-flowering; fragrant.

Cotoneaster decora and *C. horizontalis* perpulsaria are especially good for rockeries.

Cotoneaster lactea, *C. praecox*, *C. Wilsonii* and *C. salicifolia* *foliosus* are other of the less common cotoneasters which seem to have merit.

Crataegus pinnatifida major has lobed leaves, shiny above, and large fruit.

Desirable *cyclonia* varieties include *alba*, *atrococcinea*, *cardinalis*, *superba atrosanguinea*, *Vermillion* and *versicolor*.

Davidia involucrata flowers in May and June, with male and female flowers on the same tree.

Forsythia intermedia densiflora has spreading, and pendulous branches and pale yellow flowers, with recurved lobes.

Hamamelis arborea, *japonica*, *mollis*, *vernalis* and *virginiana*.

Hedera alleghani, large-leaved ivy; *arborescens*, tree ivy; *cordata*, with heart-shaped leaves; *digitata*, finger ivy; *gracilis*, with small leaves; *marmorata discolor*, and *palmata*, hand-leaved ivy.

Hieracium Pernyi, *opaca* hybrids, *Howardii*, *hibernica* and *xanthocarpus*.

Maackia amurensis *Buergeri*—deciduous tree, flowering July and August.

Pyrus lancifolia and *P. Charlotte de Wolfs*.

Many *syringas*, including the following: *Amurensis*, *Juliana*, *Meyeri*, *Komarovii*, *microphylla*, *obtusa*, *pekinensis*, *pinnatifolia*, *reflexa*, *totemilla*, *pinetorum*, *velutina* and *yunnanensis*.

Taxus ovata—upright form with dark rich green foliage.

The following *tsugas* are all suitable for rockeries: *Fremdii*, *gracilis*, *Greenwood Lake* and *minima*.

Viburnum betulifolium, *macrocephalum* sterile and *dilatatum xanthocarpum*.

Herbaceous Perennials.

The second speaker on the program for the evening was Eugene S. Boerner, Newark, N. Y., who discussed new and desirable herbaceous perennials. Among those mentioned as giving indications of having a future were: *Anthemis Moonlight*, *A. Sancta Johannis* and *A. Perryi*'s variety; *dwarf asters*, *Bluebird*, *Lilac Time*, *Snowsprite*, *Constance*, *Marjorie*, *Victor* and *Niobe*; *tall asters*, *Amethyst*, *Colonel Durham*, *Silver Sheen*, *Mount Everest*, *Charles Wilson* and *Pink Nymph*; *Coreopsis Golden Giant*; *delphiniums*, *Pacific strain*, *Leonian strain*, *Vanderbilt strain* and *Pink Sensation* *Ruysii strain*; *geums*, *Fire Opal* and *Princess Van Orange*; *Gypsophilas*, *Bristol Fairy*, *Bodgeri* and *Rosy Veil*; *Papaver orientale* *Mrs. Belage*; *Phystostegia Summer Glow*; *Liatris scariosa alba*; *Pyrerethrum Pink Bouquet*; *phloxes*, *Augusta*, *Tigress*, *Daily Sketch* and *Columbia*; *Shasta daisies*, *Esther Reed*, *White Swan* and *Chiffon*; *tritomas*, *Towers of Gold*, *Royal Standard* and *multicolor hybrids*; *Trollius Golden Queen*; *veronicas*, *Blue Spire* and *spicata rubra*; *Rud-*

beckia The King; *Korean chrysanthemums*, and *Russell-type lupines*.

The Wednesday morning session was devoted to a discussion of junipers, with Dr. Chadwick again serving as discussion leader. Because of the interest shown in the talks, it was impossible to complete the program as scheduled in the morning, some of the talks being held over till the afternoon.

Junipers from Seeds.

Harold C. Esper, of the department of buildings and grounds at the university, in discussing the propagation of junipers from seeds, first told of the various tissues which go to make up a seed and of the function of each. He advised floating the seeds that are to be sown and sowing only those which sink. The fleshy portion of the seeds is removed and the seeds are sterilized with five per cent formaldehyde for two and one-half minutes and then stored in a moist condition in a location where the temperature remains constant at 41 degrees for 100 days. He advised also collecting the blue berries rather than the gray. To control juniper blight, seeds should be sown in rows rather than broadcast, overhead syringing should be eliminated and the emerging seedlings should be protected with Bordeaux mixture.

Tom Kyle, Tippecanoe City, told of his experiences in growing junipers from seeds. He stated that the seeds are collected in the fall and early winter and only the largest used. The seeds are stratified the first year, mixing the seeds and sand, and the seeds sown the second year. The broadcast method is used and the seeds are covered with about one-half inch of sand and this in turn is covered with straw.

Propagation by Cuttings.

Dr. Chadwick's talk concerning the propagation of junipers by cuttings evolved about a questionnaire sent to leading nurseries in various parts of

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the country. It showed that the majority use sand as the propagating medium; that the growth substances have given best results with the spreading types, excluding Pfizer; that the majority use 1-year-old wood from four to eight inches long for cuttings; that most receive best results in rooting in late fall and early winter; that hot water pipes are most used for bottom heat; that 55 to 60 degrees is maintained by most in propagating houses; that the rooting medium is from 5 to 10 degrees warmer; that new sand is used each year; that the cuttings are syringed once a day; that the majority pot the cuttings after rooting, and that the varieties *squamata*, *Pfizeriana*, *procumbens*, *tamariscifolia* and *chinensis procumbens* are the most difficult to root and the varieties *horizontalis*, *horizontalis Douglasii*, *communis depressa* and *communis hibernica* the easiest to root. Dr. Chadwick offered additional suggestions for success in propagating this genus.

Grafting of Junipers.

The subject of juniper grafting was ably handled by Howard Burton, Cass-town. He listed the following as prerequisites of good understock: It should be long-lived, easy to transplant, disease-free, make a good union and should not be too expensive nor transmit bad characteristics to the finished plant. Of all the types of understocks grown from cuttings, all tried have been found to have shortcomings, while among the seedling types the red cedar has been found the most satisfactory and is the most used, although *Juniperus chinensis* has been just as satisfactory for junipers with the speaker. In general, it is better to have the understock of the same type as the top. In the grafting operation, the understock should be forced ahead, the dormant scions cut when the temperature is above freezing and a constant and humid atmosphere maintained until the graft is well knit, which takes three to five weeks; it is essential that any blighted stock be removed at once.

Specimen Production.

Concerning the specimen production of junipers, D. Barrett Cole, Painesville, showed that specimen production really begins with the cutting or graft, as it is impossible to produce specimen plants if the original cutting or graft consists of poor material. Junipers should be given plenty of space right

from the start, and proper transplanting and root pruning are important. The young potted plants are first set out in the field in narrow rows; in about three years they are put in the permanent location in the nursery, and in about two more years a tree digger is run under the trees to accomplish root pruning, using a 15-inch digger to a depth of six to eight inches. The following year the roots are cut on the row side with a heavy spade about six to eight inches away from the trunk, and in two more years root pruning is done again, using an 18-inch digger or possibly a 21-inch digger for larger trees. The spade method of root pruning is used the following year. This type of root pruning is done early in the fall. Top pruning should start early in life, probably as early as the second summer, with frequent light prunings being preferred to infrequent severe. Summer pruning should be done early. It is not advised to remove the terminal leader from upright junipers. Likewise, the speaker stressed the importance of growing the trees in a good, well drained soil, and of frequent spraying to combat insects and diseases, and the necessity for digging the trees with a good ball of soil.

George Kern, Wyoming, discussed the same subject. He stated that the development of a fine, fibrous root system must be encouraged from the start. The upright varieties must be kept staked to develop strong, straight trunks. Junipers are pruned and sheared before the early spring growth starts and the lateral branches must be developed as the plant increases in size. Midsummer pruning cannot be so severe as earlier pruning. The spreading forms must be cut back when small to develop a dense, compact growth. Root pruning is done every three years, with the larger specimens being done by hand and the smaller ones with the aid of a tree digger, and this operation is preferably done in early September in the speaker's location.

Juniper Varieties.

Thomas B. Medlyn, Cincinnati; Mark Aukeman, South Vienna, and Mr. Cole next discussed juniper varieties. Mr. Medlyn suggested the following as being satisfactory trailing types: *Sargentii horizontalis plumosa*, *communis depressa aurea*, *canadensis*, *horizontalis*, *horizontalis glauca*, *horizontalis alpina*, *japonica*, *japonica aurea variegata* and *Sabina tamariscifolia*.

The other two speakers confined their remarks mostly to the taller-growing types, particularly to the varieties in the *virginiana* and *chinensis* groups. Special mention was given the varieties which had proved most satisfactory with them. Included among these were: *Chinensis Pfizeriana*, *virginiana Canarii*, *virginiana Ketelleeri*, *virginiana Kosteri*, *virginiana Schottii* and *virginiana Smithii*, in addition to some of the newer *scopulorum* varieties.

Cost Accounting.

Russell M. Bettes, Princeton, N. J., gave his hearers plenty of food for thought in his treatment of the subject, "Cost Accounting and Its Application to the Nursery Business." He spoke of the two commonest methods used for determining costs, the first employing a permanent accounting system which ties in daily labor records with book accounts in the office and the second making separate test observations of each job performed in the nursery. He advised subdividing the growing costs into the various departments of the nursery and developing the accounts so that one can separate his business and tell, for instance, whether it has been the shrubs or evergreens that have been showing the most profit or loss, during the past year. He suggested the possibility of keeping a record of work and materials used in certain blocks in the nursery, especially where the plants are all the same age and were started at the same time on the place.

In figuring the selling price of anything grown in the nursery, the nurseryman should keep in mind that he may not be able to sell all of that particular item produced and that which is not sold costs just as much and often more than that portion sold. Likewise, he must add something to take care of sales expense, labor of digging, deliveries and at least ten per cent profit. Records kept by Mr. Bettes have shown that under his conditions the \$1 plant in one field must bring at least \$2 for the wholesale nursery.

Landscape Costs.

Harvey Bicknell, Shaker Heights, then spoke on "Landscape Maintenance Costs," stating that unless one knows his costs, it is impossible to give an accurate estimate on any job. Also, cost records check against leakage, especially against lost time and tools. To arrive at costs, labor, materials and general overhead are considered. In-

cluded in the last are labor costs which cannot be directly charged to any one job, automobile and truck expense, depreciation, tool repair, ground upkeep, insurance, taxes, heat, light, rent, telephone, office supplies, education, traveling and miscellaneous. A cost sheet should be kept on every job and every job should be made to carry its own load. Mr. Bicknell stated that there should be a minimum charge made and adhered to on any job and that usually it is customary to guarantee plantings of shrubs, lawns and perennials, but not of annuals. He advised all to read the interesting article on costs by Hubert S. Nelson in the October 1 issue of the American Nurseryman. In concluding, he stated that landscape firms should be allowed a discount from the retail selling price when they purchase stock from nurseries, believing that in many instances this should be one-third or more.

Highway Planting.

Concerning "Highway Planting Costs," Harry S. Day, Fremont, explained the many difficulties confronting the nurseryman who takes on this type of work. Perhaps one of the biggest drawbacks is the fact that the labor used must be from the county in which the work is being done, which means using an unsatisfactory and inexperienced type of labor. Likewise, some of the bids for materials are put out a year or more before they are wanted, and one is apt to suffer a loss because the market prices often have changed considerably between the time the bid is made and the time the stock is to be supplied. Often the nurseryman is held up in his planting of the stock on the job because the road contractor is running behind with his work and hence the planting is done at a time when conditions are unfavorable. Sometimes the planting costs are extremely high because of a few unnecessary clauses in the highway department's planting regulations, which at present in Ohio call for the moving of an extraordinary amount of soil and the bringing in of a large amount of new soil every time a shrub, evergreen or tree is planted. Mr. Day said that in figuring costs when bidding on such work, nurserymen sometimes fail to consider the large number of tools which will be lost, broken and stolen on the job. In summary, it was stated that highway planting costs will run much higher than would the planting of the same materials on a private job.

Victor Ries, of the university, was the final speaker. By the use of colored slides, he showed the proper use of junipers and other plant materials in the landscape planting. He showed how the type of house, soil, exposure and plant materials already in the planting should govern the kinds of materials which are to be added. He stated that, while among junipers there are many types which can be used satisfactorily in the average planting, nevertheless, he cautioned those present against the use of too large a quantity of the highly colored kinds which might in time become tiring to the client.

Exhibitors.

Exhibitors at this short course included:

Gardex, Inc., Michigan City, Ind., showing a complete set of garden tools.
Henry Hohman, Kingsville, Md., showing photo-



Walter Knott's roadside market near Buena Park, Calif.

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tographs of new and outstanding shrubs in flower. Charles F. Irish Co., Cleveland, displaying specimens showing the work of borers, limb and root galls, the effects of improper pruning and weak tree crotches.

A. M. Leonard & Son, Piqua, displaying nurserymen's and tree surgery tools.

National Shade Tree Conference, exhibiting numerous photographs showing tree surgery, tree aeration, lightning rod installation and tree moving.

Ohio Horticultural Services, Columbus, displaying fertilizers, tools and insecticides.

Ohio State University division of floriculture, indicating with actual models the various steps in cavity filling of trees.

Kallay Bros., Painesville, O., showing their new compact type of Pfitzer's Juniper.

John H. Balazs, 4681 Broadview road, Cleveland, O., displaying literature and tools.

TWIN CITIES MEETING.

A meeting of the Twin Cities Nurserymen's Association at Wade's restaurant, Minneapolis, Wednesday evening, January 12, was not so well attended as usual. R. Ruedlinger, Minneapolis, presided in the absence of President J. Juhl, St. Paul.

There were few matters of importance before the members for discussion. One calling for extended discussion had reference to what is known as the Green river ordinance, the substance of which has been incorporated in the laws of a number of Minnesota towns and small cities. This ordinance prevents any person from entering the city limits for the purpose of securing sales, unless by previous arrangement, made either by mail, telephone or personal contact. T. L. Aamodt, chief deputy nursery inspector of the state, reported that he had contacted the attorney-general's office on this matter and the law as drawn up is perfectly valid and applies to nurserymen as well as to members of any other industry. Consequently, nursery agents in Minnesota will do well to get as much business as possible by mail or phone previous to making a personal call. The number of cities having signs at the city limits calling attention to the fact that solicitors are barred appears to be increasing.

Some time was expended in discussing the grasshopper menace to nurseries.

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Mr. Aamodt informed the members that this matter has great importance and urged all who had suffered (a great deal of grasshopper injury in nurseries was reported last year) to get busy early and be prepared to use the poison as directed.

It is possible that the February meeting will be held at the University Farm campus, St. Paul.

INDIANA NURSERYMEN MEET.

Matters of legislation, both state and national, received much attention at the annual meeting of the Indiana Nurserymen's Association, which was held at the Lincoln hotel, Indianapolis, January 28. Officers elected were as follows: President, Alex Tuschinsky, Indianapolis; vice-president, Homer Wiegand, Indianapolis; treasurer, Devol Ernst, Munroe, and secretary, Kenneth Randel, of A. Wiegand's Sons Co., Indianapolis. As a member of the executive committee Lloyd Pottenger, Indianapolis, was elected.

A special legislative committee was appointed to work in behalf of nurserymen during the coming session of the Indiana legislature. This committee is composed of Harry Hobbs, Homer Wiegand, Henry Burkhardt, Lloyd Pottenger and Mr. Mashmeyer.

Scheduled on the program was an address on legislative matters by Miles Bryant, Princeton, Ill., but the speaker could not attend because of illness.

Vernon Krider took the chairmanship of the membership committee of the association, and it is planned to make a drive to double the membership during the coming year.

Frank Wallace, state entomologist, gave an interesting talk and answered many questions.

The next meeting of the association will be held early in July at the nurseries of A. Wiegand's Sons Co., Indianapolis. A family picnic will be held in connection with the meeting.

Kenneth Randel, See'y.

HORTICULTURAL INDUSTRIES.

Board Elects Officers.

The board of directors of the Southern California Horticultural Industries, Inc., met at the Montebello County Club, Montebello, Cal., January 24 on the invitation of Roy F. Wilcox. The following officers were elected: President, Harold McFadden, of the Del Amo Nurseries, Compton; vice-presidents, Harry A. Marks, of Germaine's, Los Angeles, and M. Uyematsu, of the Star Nursery, Montebello; district vice-presidents, Clifford G. Tanner, Rancho Santa Fe; Gordon Handsfield, Anaheim; H. T. Campbell, Santa Barbara; J. C. Watt, Ontario, and William B. Early, Los Angeles. The executive secretary, Lou Johnson, Los Angeles, was continuing in office unanimously.

Directors for 1938 include: Louis Degaard, Monrovia; Jack Evans, West Los Angeles; R. W. Hamsher, Los Angeles; H. T. Campbell, Santa Barbara; Gordon Handsfield, Anaheim; H. Komai, West Los Angeles; E. Y. Kuramoto, Hollywood; Harry A. Marks, Los Angeles; Harold McFadden, Compton; Peter Mordigan, San Francisco; J. J. Mulvihill, Pasadena; S. Nishida, Harbor City; Alfred M. Peterson, Monrovia; H. J. Scherer, Long Beach; S. Sugimoto, Los Angeles; S. Tanaka, Hollywood; Clifford G. Tanner, Rancho Santa Fe; M. Uyematsu, Montebello; J. C. Watt, Ontario; R. D. Wescott, Los Angeles, and Roy F. Wilcox, Montebello.

Seek Trade Figures.

It is expected that members of the institute and the nurserymen of southern California will be asked to go into a monthly reporting service which will give the total gross business for the retail nurseries of this section of the state. This is in connection with the bureau of domestic trade of the department of commerce and also at the request of Mr. Ryan, county agricultural commissioner. The board established a regulation whereby future membership applications will be received only if three member sponsors are given.

In turning over his office to his successor, Mr. Wilcox made a talk on organization problems, covering the field of legislation and other timely topics. At the conclusion of his talk, President-elect McFadden, on behalf of the members of the board, presented Mr. Wilcox with a good, handsome brief case as a gesture of appreciation for his service to the industries for the last eighteen months.

Cites Last Year's Gains.

In a greeting to members, Roy F. Wilcox, president, brought out the following summary of the year's accomplishments:

The spirit of coöperation has been truly demonstrated by the nurserymen of southern California during this past year, and it is gratifying to the officers and directors of the organization to see the real progress which has been made. While it is realized that everything is not working exactly 100 per cent, there will still be many more benefits and improvements during 1938 under the plans which are now arranged."

Mr. Wilcox is confident that none of the members want to go back to the old-time standards, methods and prices and welcomes suggestions for the good

We Offer for Spring Delivery

The best assortment of lining-out stock we have had for the past several years, consisting of:

HARDY FLOWERING SHRUBS, Lining out and Finished Stock.

PRIVET, Amoor River North, California, Amoor River South, Ibolium and Ibo, in both Lining Out and Finished Stock. Special prices in carload lots.

SHADE AND ORNAMENTAL TREES, clean nursery-grown, well caliper stock in the following varieties:

2,500 Silver Maple	6 to 12 feet
1,000 Acer Rubrum	6 to 12 feet
500 Sugar Maple	6 to 10 feet
300 Betula Nigra	6 to 12 feet
2,500 Cercis Canadensis	6 to 12 feet
500 Cercis Canadensis, Clumps Bush	4 to 8 feet
1,000 Green Ash	6 to 12 feet
1,000 White Ash	6 to 12 feet
700 Liquidambar, Sweet Gum	6 to 10 feet
500 Liriodendron, Tulip Tree	5 to 12 feet
100 Magnolia Acuminata	6 to 10 feet
2,000 Platanus, American Sycamore	6 to 12 feet
800 Poplar Caroliniana	6 to 12 feet
2,200 Poplar Lombardy	6 to 10 feet
400 Black Locust	6 to 12 feet

Also a good assortment of lining-out Shade Tree seedlings.

A very good assortment of Vines and Creepers in lining-out and finished stock. CONIFER EVERGREENS, assorted, consisting of *Biotas*, *Thuja*, *Junipers*, *Spruces*, *Hemlocks*, *Broad-Leaf Evergreens*, *Boxwood*, *Eyonymus*, *American Holly*, *Kalmia Latifolia*, *Magnolia Grandiflora*, *Rhododendrons* and *Nandina*.

APPLES, good list of 1-year grafts, 3 to 4-foot and 4 to 5-foot whips in the leading commercial varieties.

PEACH, JUNE BUDS, assorted varieties and sizes.

We have recently purchased the growing nursery stock of the Henegar Nursery, which will supplement our own stock and give us a larger supply to take care of the increasing demands.

Send want list for special quotations.

We extend you an invitation to visit us at any time. Our Spring Trade List will be out Feb. 1 to 10; write for a copy.

FOREST NURSERY CO., INC.

Established 1887
By J. H. H. Boyd

J. R. Boyd
President

of the organization, which now has over 400 members and real influence. The nursery trade has been brought to a better comprehension of its problems, and a wider acquaintance between members and a far clearer and broader understanding of what the future holds through continued efforts and organization have also been accomplished.

Committee work, according to Mr. Wilcox, has been of a high character, outstanding in which has been the classification of some 700 nursery items into fast, medium and slow-growing plants; suggested minimum price lists; coöperation with state, county and city officials, and splendid legislative accomplishments at Sacramento.

The arbitration committee has held twenty-six meetings, in which sixty-two complaints have been adjusted. A number of other matters were ironed out by the office without the formality of a hearing. A cost survey of ornamental nursery stock is in progress.

California planting week, March 1 to 7, proved a big success, receiving support from all public officials, the radio, newspapers and magazines. It is hoped to make it a permanent feature and a real sales week for the nurserymen.

ATTACKS CALIFORNIA LAW.

The new California law requiring nurserymen to label all stock sold by them is under attack in a suit filed in the Superior court at San Francisco January 4 by Victor A. Ferrari, San Francisco. Mr. Ferrari is seeking an injunction to prevent the state department of agriculture from enforcing the law.

Business Is Good!

This issue carries the most advertising of any number of The American Nurseryman in six years — 50% more than last year.

DEMAND FOR STOCK IS STRONG

But buyers can't know what you have to sell unless you tell them. What you have in supply, somebody else may be looking for. Don't keep your stock—sell it, and grow more. That's the way to larger profits.

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The only magazine reaching all the large buyers of nursery stock throughout the country—and read regularly and thoroughly. Let it serve you, too.

Oregon State Meeting

Midwinter Gathering at Portland Draws Largest Attendance in History of Northwest Association

At the midwinter meeting of the Oregon Association of Nurserymen, January 14, at the Multnomah hotel, Portland, President J. Frank Schmidt was congratulated for his work in publicizing the event, for registration and attendance were better than at any other in the history of the organization. Over 150 were present at some of the meetings.

Several women attended the meetings. Mrs. E. J. Berneche, prominent peony specialist, proved an admirable hostess. Mrs. Robert Isler and Mrs. Nick Schroeder did fine work in providing flower decorations and corsages for the ladies at the banquet.

In the front of the convention room on scales was a "mammoth new wonder pear," weighing one pound. A sign explained it "keeps in good condition, without refrigeration, from October to May." A card said, "Suggest name." It was introduced by Malcolm McDonald, proprietor of the Oregon Nursery Co., who was the original organizer and first president of the Pacific Coast Association of Nurserymen.

At the opening of the morning session J. Frank Schmidt, president of the Oregon Association of Nurserymen, called for a pause in memory of B. A. Mitchell, who died November 29, 1937. His work as past president of the Pacific Coast Association of Nurserymen and his loyalty to the Oregon organization were remembered gratefully.

Fred Borsch, treasurer, reported a satisfactory balance in the bank.

Paul Doty reported on conditions regarding ornamentals and landscape work, which are encouraging to the industry. "No complaints have been heard," he said. "Conditions appear good. There seems a strengthening of the wholesale market and a weakening of the retail market. But I feel sure this latter condition will gradually adjust itself."

Avery Steinmetz, who was to have talked on fruit trees, sent a letter of greeting instead, as he was in Chicago, at the meeting of the executive committee of the American Association of Nurserymen.

Knight Pearcey gave the situation on nut trees. "Not so many walnut trees as in the past because of the small commercial demand; partly perhaps, because of the poor nuts in the past season's crop. Filberts cleaning up well; 2-year stock short."

E. M. Dering reported a shortage of roses. The average crop will be sold before spring. He predicted a large Oregon crop for next year, as there is a good stand of cuttings. He believed business would improve.

H. C. Compton spoke on berries, referring to certified plants. The demand is encouraging. Plants are all contracted for in some instances.

Nick Schroeder reported on florists' greenhouse crops, declaring, "The past year started off with a real bang; then at midsummer a recession hit. Holiday business was not up to that of a year ago."

Wayne McGill, reporting on seedlings,

said there was little surplus in apple and pear seedlings. Of cherry seedlings there is a shortage; all small sizes are cleaned up. Plums and quince show little surplus. In shade trees and ornamentals there is a shortage all the way through.

Walter Damm, secretary of the Pacific Coast Association of Nurserymen, traced the growth of this organization from thirty-six years ago. "Oregon and California are strong, and the younger Washington organization is growing finely." He emphasized the service the association renders in collecting delinquent accounts. "Call on us," he urged; "our office can collect the accounts if they are collectible." Charles Malm, president of the Pacific coast association, gave a short talk that was stimulating.

State accident compensation was discussed by Knight Pearcey, and vast interest was manifest in this subject. Lower rates of coverage can only come if more nurserymen will come under the plan, Mr. Pearcey declared.

Just before noon the narcissus and iris bulb growers held a group conference, led by S. B. Hall, vice-president of the Northwest Bulb Growers' Association. At this same hour prominent gladiolus growers met in round-table discussion at luncheon in the hotel. There was lively discussion concerning new varieties of gladioli, diseases, treatments, fertilizers, market conditions, etc. The forum was carried over till the next day. Over twenty-two gladiolus growers came from Grants Pass alone during the day, it was reported.

Earl Housewright urged the nurserymen who had surpluses of certain trees to donate some for planting at the state fair grounds, at Salem.

Wayne McGill spoke on social security taxes. He believed some of the nurserymen would have refunds coming, but stated those cases would doubtless need considerable study and there would be many hair-line decisions forthcoming as to classification of employees. Nurserymen who felt they have refunds coming he advised to file claim both with the federal government and the state.

One of the most helpful talks was given by Henry Hartman, professor of horticulture at Oregon State College, on trade problems as related to the college experiment station. He referred to the outstanding equipment of the college, with irrigation and storage facilities in experimenting with various items. He referred to a fungus affecting some forms of arbor-vite. "A copper spray looks promising to free the plants from trouble, and control can be worked out. The copper sprays are practically invisible and can be removed without serious difficulty," he declared. Mold on rose plants in storage also is being studied, but it is hard to deal



J. FRANK SCHMIDT.

The president of the Oregon Association of Nurserymen, J. Frank Schmidt, was born and raised in Oregon and has been growing nursery stock there since 1912. His firm, J. Frank Schmidt & Sons, Troutdale, Ore., grows flowering trees and shrubs, as well as shade trees, specializing in pink flowering dogwood and Japanese maples.

"I have seen plenty of ups and downs," says Mr. Schmidt, "but the fascination of working with growing plants has made it a pleasant livelihood. The real satisfaction in nursery growing is holding production to one's capacity and to the point where quality can be produced. I am a strong believer of getting acquainted with our fellow nurseryman. After all, our interests are mutual, as we realize when we are together and talk over our problems. The trend of times has centralized government; therefore, we must have strong state organizations and a still stronger national organization."

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WHOLESALE GROWERS

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including Fruit Tree Seedlings.

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LINING-OUT STOCK B & B EVERGREENS

Write for our complete catalogue

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Columbus, Miss.
South's Largest Florists and Nurserymen

with. "If we give sufficient aeration to the tops of the plants, possibly trouble may be prevented," he said. He discussed the defoliation problem, especially on roses and other types of nursery stock. The process of defoliation, he thought, should be a natural one. The station staff is trying out a number of methods, and it has been able to take off the leaves by application of small amounts of a certain kind of gas, and it takes them off quickly. He spoke of an oil spray for checking holly bud moth in case there should prove need for some such treatment.

J. Fred Austin, regional director of the Society of American Florists, gave an inspiring talk on the function of that organization.

In regard to the earlier suggestion concerning beautification of home grounds, being promoted by Dean William A. Schoenfeld, of Oregon State College, in connection with the federal housing program, President Schmidt appointed Avery Steinmetz chairman of a group to study the situation, the latter being authorized to appoint his own committee.

The next meeting of Oregon nurserymen was slated for sometime in May, at Corvallis, at which time the Oregon State College there will coöperate in making research data available to nurserymen.

The Oregon holly growers held a group conference and discussed dipping, marketing, etc. One real problem is the infested holly in some private home owners' yards. The commercial holly growers' stocks, generally speaking, were found to be fine and healthy. State representatives conferred as to ways and means of furthering this important industry.

Considerable time during the day's meeting was devoted to the subject of quarantine No. 37. Wayne McGill gave a report on quarantine regulations, as did Frank McKennon, chief of the division of plant industry of the state of Oregon, and J. I. Griner, supervisor of horticulture of the state of Washington. The nurserymen expressed themselves strongly as upholding and in favor of strengthening the regulations contained in quarantine 37 in order to protect the industry.

The high light of the convention was the address given by Oregon's Governor Martin. In no uncertain tones he praised the work of the nurserymen of the state, declaring that the strength of our nation is contained in those engaged in agriculture, rather than those contained in the huge undigested masses of humanity in the cities. He urged upholding the standards schedules, and spoke of the importance of the pear, apple crops, etc., inasmuch as they run into millions of dollars in value to the state. He wanted Oregon to be known as the rose state and urged his hearers to sell the idea to more of the general public. He invited nurserymen to make greater use of the information developed by the state department of agriculture and the state college. His address was enthusiastically received.

The banquet was an enjoyable affair, Paul Doty presiding. The toastmaster and others included much humor in their talks. Besides a delicious dinner, there was a fine program put on by the Oregon Journal Juniors in music and recitation.

Portland Wholesale Nursery Co.

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A complete line of
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Our usual line of quality nursery stock, including Shade and Flowering Ornamental Trees and Specialties, Fruit Tree Seedlings and Roses.

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A card will bring our list of items
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"Pioneer Nursery of the Northwest"

Fruit, Shade, Flowering and Ornamental Trees, Fruit Tree and Chinese Elm Seedlings. Car lot advantages to all points east.

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Fruit, Shade, Flowering Ornamental Trees, Fruit-tree Seedlings, Roses, Etc. *Very complete line of quality stock*

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Also larger grades for landscaping
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EVERGREEN SPECIALISTS
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Iowa Short Course

Combined with State Association Meeting, Event at State College Draws Nurserymen from Three States

In spite of ice, snow and fog on the roads, keeping home many who might have motored to the event, the first short course for nurserymen at Ames, Ia., held January 19 and 20 by Iowa State College with the coöperation of the Iowa Nurserymen's Association, attracted an attendance of more than sixty nurserymen from Iowa, Nebraska and Minnesota.

The annual meeting of the Iowa Nurserymen's Association was held in two brief sessions after the luncheons. C. C. Smith, of the Sherman Nursery Co., Charles City, was elected president, after having served as secretary-treasurer for seven years. David F. Lake, of the Shenandoah Nurseries, Shenandoah, Ia., was elected vice-president, and Harold J. Parnham, Des Moines, became secretary-treasurer, a post he held prior to Mr. Smith's term of office.

The summer meeting will probably be held the first week in July at Shenandoah, Ia., according to an invitation by the retiring president, Harold S. Welch, in behalf of the Shenandoah firms.

Prof. B. S. Pickett announced a field day at Ames probably about June 20.

Chet G. Marshall, vice-president of the American Association of Nurserymen, told of the new organization plan of the national body and of the work being undertaken through the newly opened Washington office.

John Fitzsimmons presented a proposal of the garden clubs of the state that every woman plant a tree and that the nurserymen supply quantity orders of a few specified trees at a price that would encourage the project.

The banquet on the evening of the first day was an entertaining event by reason of the humor of the toastmaster, T. J. Maney, and the wit of the guest speaker, Roy D. Underwood, president of the Minnesota State Nurserymen's Association, in addition to the music of a hill-billy orchestra composed of local talent.

Pickett on Propagation.

The opening talk on the short course was that of B. S. Pickett, head of the department of horticulture, on "Recent Ideas on the Rooting of Cuttings." He called attention to the use of leaf-bud cuttings; the rooting of softwood cuttings of apple by inducing growth of adventitious sprouts on own roots of desired varieties and rooting the resulting sprout somewhat as one would root sweet potato cuttings; the improvement of rooting mediums by various mixtures of sand and peat; electric heating of propagation frames, now a general practice; the etiolation or blanching of cutting wood before taking it from the parent plant, a procedure still in the experimental stage, and finally the use of root-inducing substances, a subject of much recent literature.

The guest speaker for the course was W. H. Alderman, head of the department of horticulture of the University of Minnesota. In his morning address he traced the rise of fruit breeding in

Minnesota, which started with the removal of Peter Gideon to Minnesota in 1853 at the age of 35. Seeds that he planted in 1861 fruited in 1867 to give the well known Wealthy apple. The state legislature established the first public fruit-breeding station in the United States in 1878, but it was abandoned eleven years later. Another station was established at Owatonna and later given up. In 1907 the present experimental farm was acquired, now comprising 230 acres. The hybridizing is done in greenhouses, where about 1,000 trees are grown in tubs for the purpose.

Tracing the steps by which results of such hybrids are tested, he indicated that the earliest a plum should be introduced would be in twenty to twenty-two years and an apple from twenty-five to twenty-seven years. To pay for the expense of such prolonged testing, he cited the value of the Haralson apple and the Latham raspberry, two Minnesota introductions, the latter of which annually returns to the growers of the state two or three times as much as the total cost of the fruit-breeding station to date.

Continuing his subject in his afternoon talk, Dr. Alderman stated that the fifty-seven experiment stations in the United States and Canada engaged in fruit breeding had so far introduced 750 varieties, of which fully three-fourths had failed to make a place for themselves. The experience of the Minnesota station and of several other stations showed an early haste to put out new varieties, invariably followed by a much more conservative attitude. His comments on fruits were much the same as those presented at the Minnesota nurserymen's meeting, reported in the December 15 issue. He urged nurserymen to sell varieties where they will grow and keep customers from planting them in localities where they will not thrive.

Other comments on new varieties were offered by H. L. Lantz and B. S. Pickett. The former repeated the praise of the Joan apple given by Dr. Alderman, calling attention to its unusual productivity. Hawkeye Greening he also reported unusually productive, vigorous in growth and hardy in northern Iowa. Edgewood and Secor were recommended to supplement Jonathan, especially in southern Iowa, although these fruits are lighter in color, but have other advantages. Professor Pickett termed Secor a topnotch winter apple in quality. He reported the early appearance of a new edition of a popular bulletin, "Varieties of Tree Fruits for Iowa Planting."

B. J. Firkins talked on "Some Fundamental Considerations in Respect to Soils," calling attention to the necessity of evaluating the physical characteristics of the soil, the chemical make-up and the physiological contents. Soil tests, he said, depend upon the ability to interpret results more than on the reactions themselves. He particularly called attention to the necessity of returning to the soil the chemical constituents removed by the harvesting of crops.

Highway Planting.

J. M. Hall, landscape architect for the Iowa state highway commission, referred to roadside plantings of the past year as scattered about the state and largely for demonstration purposes. Highway planting, he declared, instead of being an accessory to roadsides as a beautification project, is now considered as a necessity for safety's sake, erosion control, etc. In consequence, grading and shaping of the roadway are done with a view to later planting. The wider right of ways also permit pushing utility lines back and planting larger trees. Subsequent planting projects will therefore give greater results, since a smaller part of the funds will go to revamping the old grading and repairing old structures. Highway planting started out without precedent and those engaged in it have to feel their way, but their success has turned opposition to favor in most communities.

Second Day.

Opening the morning session of the second day, H. W. Richey talked on the fundamentals of plant propagation. By the use of slides he showed plant structures and their manner of forming roots. The primary essential in propagation is the use of a part of a plant in active growth and also possessing a growing stem point or capable of developing it. Factors which are under the control of the propagator are food supply, moisture of the rooting medium and of the atmosphere, the temperature of each, and light. Upon the ability to handle these factors skillfully depends the propagator's success.

T. J. Maney gave a most interesting talk on hardy stocks. The influence of stocks, as to dwarfness, resistance and hardiness, is well known. Some experiments have not been of much value, he said, because of the great variation in vigor of seedling stocks. The work at East Malling, England, to classify strains of fruit stock was an important step forward and is being followed in this country. A solution seems to have been found in the use of double-worked stocks in commercial orchards. Records



H. S. Welch.

SHADE TREES

	Per 10	Per 100
Ash, Am. White, 10 to 12 ft.	\$7.50	\$65.00
Ash, Am. White, 2 to 2 1/2-in. cal.	15.00	125.00
Catalpa Bungo, 5 to 6 ft.	7.50	65.00
Elm, American, 10 to 12 ft.	7.50	65.00
Elm, American, 1 1/2 to 2-in. cal.	9.00	80.00
Elm, American, 2 to 2 1/2-in. cal.	12.50	115.00
Flowering Crab, 3 to 4 ft.	4.00	...
(Elm, European, Sargentii, Sargentii)		
Japanese Cherry, 3 to 4 ft.	7.50	65.00
Japanese Cherry, 4 to 5 ft.	8.50	75.00
Jap. Weeping Cherry, 1-yr., 5 to 6 ft.	13.50	125.00
Maple, Norway, 8 to 10 ft.	9.50	85.00
Maple, Norway, 10 to 12 ft.	11.00	100.00
Maple, Norway, 2 to 2 1/2-in. cal.	20.00	185.00
Oak Pin, 2 to 2 1/2-in. cal.	25.00	...
Oak Pin, 2 1/2 to 3-in. cal.	40.00	...
Plane, Oriental, 2 1/2 to 3-in. cal.	20.00	...
Poplar, Lombardy, 6 to 8 ft.	2.50	20.00
Poplar, Lombardy, 8 to 10 ft.	3.00	25.00
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Write for prices on other varieties and sizes.

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APPLE TREES

We offer to the trade an extra-fine lot of 1-year Apple Trees; all grown from Whole Root Grafts. A complete list to select from. This stock is unusually vigorous and strong. Your customers will like these trees.

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Complete list of deciduous lining-out stock this year.

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And Complete Line of Nursery Stock

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Canterbury Boxwood

Buxus suffruticosa and *B. sempervirens*.
Selected uniform plants; bushy and foliated to center; masses of fibrous roots. Finished specimens from 4 inches up, ready for quick shipment. Prices lower, plants larger. Ask for special list.
CANTERBURY, Box A, **Easton, Md.**

in Iowa reveal the value of hardy stocks like Hibernal, Virginia Crab, Haas and Sheriff. A list was distributed of forty-five varieties with which either Hibernal or Virginia Crab had been used successfully.

R. R. Rothacker, of the college department of landscape architecture, built up a picture of a farm home landscape by the use of colored pieces of flannel to represent trees and shrubs. He urged that nurserymen help clients place the home on the lot and to provide logical locations for walks, drives and other buildings. If the first order is small, trees should be planted—elms near the home and low-headed trees, like oak and maple, away from it. Wind-breaks on the west and north are important to save fuel and cattle food. He especially urged that the planting be placed so as not to block the view of the farmyard from the house. He thought nurserymen might induce home owners to employ newer varieties of plants if more concerted trade action were taken in propagation and distribution.

George C. Kent illustrated by means of slides certain plant diseases of the nursery so that they might be easily recognized and the proper control measures employed.

After a brief talk by C. J. Drake, state entomologist, on aspects of quarantine 37, C. H. Richardson spoke on insects of the nursery and their control. He described the purpose and use of oil sprays, lime-sulphur, nicotine, derris, eubé and pyrethrum, pointing out the particular value of each.

In discussing the apple-tree borer, he said information was still needed, but so far wrapping young trees with the commercial crêpe paper supplied for the purpose seemed the best. He pointed out the effect of sun scald in encouraging the borer.

KANSAS NOTES.

Jess P. Foster, since 1926 grower for the Willis Nursery Co., Ottawa, Kan., has resigned to take a similar position with the Boyd Nursery Co., McMinnville, Tenn. Mrs. Foster and the two children, Pat, who is in college, and Doris, in high school, will remain in Ottawa until the end of the school year.

Mr. and Mrs. Robert Adair, of the Wathena Nurseries, Wathena, Kan., have returned from a visit of several weeks with a daughter in California.

The retail store of the Garden Shop Nursery, 318 West Forty-seventh street, Kansas City, Mo., has been discontinued and the office moved to the nursery, at 4819 Mission road.

Charles Nelson, of the Prairie Garden Nursery, McPherson, Kan., and Tom Rogers, of the Winfield Nurseries, Winfield, Kan., attended the convention of Oklahoma nurserymen at Oklahoma City, January 19 and 20. J. J. P.

WESTERN NUT GROWERS MEET.

At the twenty-third annual meeting of the Western Nut Growers' Association, at Newberg, Ore., E. E. Strothers of that city was elected president for the coming year; Kenneth H. Wiley, Eugene, Ore., and George Caldwell, Vancouver, Wash., vice-presidents, and C. E. Schuster, secretary-treasurer for another term. The 1938 convention will be held at Eugene, Ore., in December.

GRAFTED JUNIPERS

We offer the following varieties for spring delivery from 2 1/2-in. pots, grafted on *Juniperus virginiana* understock.

- J. chinensis columnaris glauca*
- J. chinensis columnaris viridis*
- J. chinensis nebariensis*
- J. chinensis Sargentii*
- J. chinensis Sargentii glauca*
- J. squamata*
- J. squamata argentea*
- J. squamata Meyeri*
- J. Japonica aureo-variegata*
- J. virginiana Burkii*
- J. virginiana Canariensis*
- J. virginiana elegantissima*
- J. virginiana glauca*
- J. virginiana globosa*
- J. virginiana Keteleeri*
- J. virginiana Kosteri*
- J. virginiana Schottii*
- J. virginiana pendula*
- J. virginiana pyramidiformis*

Price \$25.00 per 100

HESS' NURSERIES
Mountain View, New Jersey

BOBBINK & ATKINS

Nurserymen

Rutherford, New Jersey

Request our catalogues describing the uncommon in nursery items.

CLOSING-OUT SALE

Due to the death of the owner, Cheltenham Nurseries are being discontinued. All stock is offered for sale. We have over 400 varieties in various sizes up to 8 ft.: 3500 *Prunus* in variety; 800 *Buxus suffruticosa* 4 to 8 in. and a large variety of perennials. The executors would like the nursery cleared by March 1. Buyers must dig plants. Send for list of plants. No reasonable offer refused.

CHELTONHAM NURSERIES
Ashbourne and Oak Lane
CHELTENHAM, PA.

LINING-OUT STOCK

Connecticut Valley Grown
Seedlings — Rooted Cuttings
Evergreen and Deciduous

Write for list

C. E. WILSON & CO., INC.
Manchester, Connecticut

PRINCETON NURSERIES
of PRINCETON, N. J.

SUPERIOR
Hardy Ornamentals

QUALITY NURSERIES

Allenwood, Pa.
Largest Nursery in Central Pennsylvania
Special Prices
on
Hemlock—Yew—Arbor-vite

Southern State Meetings

NORTH CAROLINA MEETING.

Approximately 100 nurserymen attended the winter meeting of the North Carolina Association of Nurserymen, held January 25, in the board room of the department of agriculture, at Raleigh. President J. Yates Killian presided. It was the biggest winter meeting yet held.

W. Kerr Scott greeted the association and told them of the work of the department of agriculture. Mr. Scott told the nurserymen that their wishes would be given careful consideration in all matters affecting their industry.

A. J. Newton, general counsel of the state unemployment compensation commission, reported a ruling that nurserymen were classified as agricultural and therefore were not subject to the social security tax.

W. T. Hanner, of the North State Nursery, Julian, led the fight against the sales tax. As a result of his efforts in securing the services of able counsel, the attorney-general of North Carolina relieved the nurserymen from the payment of the sales tax.

A resolution was adopted favoring complete coöperation with the A. A. N. in maintaining a representative in Washington. Subscriptions were immediately started to complete the \$245 owed on North Carolina's quota of \$300.

The association went on record as favoring a nursery short course to be given by the state college of agriculture and engineering.

The program included the following talks:

"Some New Fruit Varieties Tested in North Carolina," by Prof. M. E. Gardner, head of the department of horticulture at North Carolina State College. He announced the appointment of a state landscape specialist who will be employed by the extension service and work in close coöperation with the nurseries.

"Recent Results with Root-producing Substances," by J. G. Weaver, of the department of horticulture, North Carolina State College.

"White Grub Control in Nurseries," by H. R. Johnson, of the United States Department of Agriculture.

"Present Status of Mimosa Wilt and Hemlock Stem Rust," by George H. Hepting, of the United States Department of Agriculture.

"Report on Promising Seedling Pecans," by Robert Schmidt, of the department of horticulture, North Carolina State College.

"Nurseries and Dealers," by L. R. Casey, past president of the North Carolina Association of Nurserymen.

"Propagation," by E. I. Tinga, Castle Hayne.

"Pertinent Observations," by W. T. Hanner, past president of the North Carolina Association of Nurserymen.

Report on annual meeting of Southern Nurserymen's Association, by W. C. Daniels.

Report on annual meeting of American Association of Nurserymen, by S. D. Tankard, Jr.

A feature of the meeting was a noon visit to the horticultural greenhouse of the state college, led by James Weaver.

The committee on resolutions, consisting of D. S. Copeland, chairman; D. Earl Pettey, and W. H. Howard,

expressed in its report thanks to W. T. Hanner for his work on the sales tax and in increasing membership, to the personnel of the state department of agriculture and the state college for their coöperation, and to Secretary Brannon for his meeting arrangements.

The annual meeting will be held at Asheville, July 7 and 8.

ARKANSAS ELECTION.

Hugh D. Britt, Rogers, Ark., was elected president of the Arkansas Nurserymen's Association at a meeting of the association's executive board at Rogers, January 10. Walter Vestal, Little Rock, was chosen vice-president, and G. C. Watkins, Siloam Springs, secretary. As members of the executive committee, Dr. W. M. Moberly, Bentonville; W. A. East and George P. Spurlin, both of Amity, and E. A. Ballard, Pigott, were chosen.

VIRGINIA WINTER MEETING.

The winter meeting of the Virginia Nurserymen's Association, held at the John Marshall hotel, Richmond, January 25, drew an attendance of thirty-two. One of the most encouraging features of the meeting was the active interest shown and part taken in the discussions by nearly everyone present. One new member joined the association, Howell Nursery, South Boston, Va.

Following luncheon at noon, the meeting was opened by President R. G. Burnet, and the secretary-treasurer's report was presented by G. T. French. An association news-letter was discussed by A. G. Smith.

The following reported as chairmen of committees: Executive, Kenneth McDonald; legislative, T. D. Watkins; program, H. C. Klehm; membership, Kenneth McDonald. The executive committee consid-

ered a number of matters, which will be presented for decision at the annual meeting next summer, at Blacksburg.

Owen G. Wood discussed at length the progress made in the reorganization of the American Association of Nurserymen, and steps were taken to secure a sufficiently large number of members in Virginia to take out a chapter charter.

Fred Shoosmith led an interesting discussion on propagation. Root pruning was discussed by W. L. Winn, and insect and disease problems, by C. R. Willey. The moving of large trees was the subject of an illustrated talk by Charles Williams, of Williams & Harvey Nurseries, Kansas City, Mo.

G. T. French, state entomologist, discussed state and federal quarantines, touching specially on the azalea spot disease, black stem rust and federal quarantine 37 and its regulations.

OKLAHOMA CONVENTION.

At the annual convention of the Oklahoma State Nurserymen's Association, held at the Huckins hotel, Oklahoma City, January 19, all 1937 officers were reelected for the ensuing year as follows: President, V. E. Bryan, Oklahoma City; vice-president, C. E. Stephens, Tulsa, and secretary, J. A. Maddox, Oklahoma City. All committee members were reappointed for another year, and Tulsa was selected for the summer convention city this year.

In addition, members of the American Association of Nurserymen present at the convention held a special meeting to organize a chapter of the national organization. J. Frank Sneed, Oklahoma City, was elected president and C. Y. Higdon, Oklahoma City, secretary. J. Frank Sneed, V. E. Bryan, and W. E. Rey, Oklahoma City; Jim Parker, Teeumseh, and C. E. Stephens signed the petition for a charter.

After the meeting had been called to order by V. E. Bryan, an invocation was offered by the Rev. O. James Sowell. Dan W. Hogan, president of the City National Bank & Trust Co., Oklahoma

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Very vigorous well branched 2-year stock

	$\frac{1}{2}$ -in.	$\frac{3}{4}$ -in.	$\frac{1}{4}$ -in.	1-in.
12c	126	469	845	822
Ben Davis (red)	258	320	100	210
Blod Red Delicious	581	4143	5070	1122
Early Red Bird	...	523	1340	322
Jonathan	...	3149	2420	328
Mammoth Black Twig	110	439	1149	1659

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TREE SEEDLINGS

Per 1000	18 to 24 ins.	12 to 18 ins.	6 to 12 ins.	4 to 6 ins.
OSAGE ORANGE	\$6.00	\$4.50	\$3.00	\$2.75
HONEY LOCUST	6.50	3.75
MARY WASHINGTON ASPARAGUS	heavy 1-year, \$4.50 per 1000, \$42.50 per 10,000.			

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100,000 Fruit Trees

100,000 Roses

150,000 Perennials

Lining-out grades Shrubs,

Evergreen Seedlings

200,000 Amoor River Privet

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Beauty Bush (Kolkwitzia), Spiraea Freebell, Hydrangea A. G. and many others.

FINE BENCH GRAFTS

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Flowering Crabs, French Lilacs, Prunus Newport, Select Red Persian Lilacs.

Also Barberia, Clematis, Spiraea, Hydrangea, Viburnums, Chinese Elm, Russian Olive, etc.

Send for complete list of lining-out stock.

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LINING-OUT STOCK

Evergreen Seedlings, Transplants, Maples, Nut and Apple Trees.

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Special reduced prices.

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For Hardy NEW ENGLAND
Trees, Shrubs, Vines,
Bulbs, Ferns and Plants

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Hardy Ferns,

Lining-out stock.

Trees and Shrubs.

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At sacrifice prices to reduce surplus
6 to 8 ft. to 2-in. 40c and up.

Can use some exchange.

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Asparagus Roots

We offer to the trade one of the largest
plantings of 1 and 2-year roots in the
east. Write us for prices.

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Salisbury, Maryland

City, welcomed the members and friends of the association in his typical manner. He insisted that this country is fundamentally sound and that with people and industry pulling together, the pitfalls that other nations are now encountering can be avoided.

The response to the welcoming address was made by C. E. Stephens. He expressed appreciation both to Mr. Hogan and the trade members at Oklahoma City.

The president's address was then delivered by V. E. Bryan. He was optimistic in his vision of good times ahead for nurserymen and was proud of the increase in membership of the association and of the many things it had accomplished during the past year.

The secretary's report for the year was read and approved. Visiting nurserymen were called upon to say a word. Among these was J. A. Bostick, Tyler, Tex., president of the Texas Rose Growers' Association, who expressed his surprise at so large an attendance. J. T. Foote, Durant; A. L. Thompson; Tom Milstead, Shawnee; Jim Parker; J. F. Sneed, and W. E. Rey all saw a good outlook for the year 1938.

Mr. Hirschi, Oklahoma City, made a short talk on "Berries and Their Possibilities in Oklahoma."

Luncheon was served in the main dining room of the hotel, forty nurserymen being served.

At 1:30 p. m., the meeting was again called to order and an address, "Insect Control on Nursery Stock," by Dr. F. A. Fenton, state entomologist, of the Oklahoma A. & M. College, Stillwater, was heard.

At 7 p. m. the banquet was served in the large hall of the Huckins hotel. T. A. Milstead was toastmaster. Joe C. Scott and his family were guests of honor. Mr. Scott is president of the Oklahoma state board of agriculture. Much fun and many speakers were introduced by Mr. Milstead, who is a past master in gridiron introductions. Music was furnished by the Hot Shot section of the Crusaders Novelty Band, composed of boys from 10 to 14 years of age. Dancing and revelry lasted far into the evening.

The second day's meeting was opened by Virgil McPhail, Austin. Mr. McPhail is connected with the department of agriculture of Texas as floral and greenhouse inspector. He says conditions and quality of stock in Texas are growing better and that growers of roses in Texas are making a real effort to see that their stock is of good quality and free of disease. J. A. Bostick corroborated the remarks of Mr. McPhail.

C. E. Garee, of the Noble Nursery, Noble, was then called upon. Mr. Garee had with him plants of new varieties which he grows at Noble.

The next speaker was Dr. K. Starr Chester, plant pathologist of the Oklahoma A. & M. College, whose topic was "Fungous Diseases."

The rest of the day was devoted to discussion of laws, quarantines and taxes. Mr. Durell, of the Oklahoma state forestry service, spoke.

Forty new and old members paid their annual dues. Many visitors from Oklahoma City dropped in occasionally, but did not register; these visitors swelled the attendance to nearly 200 during the two days, making it the largest convention in the history of the association.

J. A. Maddox, Sec'y.

EVERGREENS

- Seedlings
- Potted Liners
- Small Transplants
- Specimen Trees
- And a general assortment of shade trees, shrubs, small fruit and phlox.

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LINING-OUT STOCK

	10	100	1000
Berberis aristata, 1-year-old;			
from 2½-in. pots	\$7.00	\$60.00	
Buxus suffruticosa, from beds	5.00	40.00	
Ilex crenata	\$1.25	10.00	90.00
Ilex cornuta major	1.25	10.00	
Ilex opaca	1.25	10.00	90.00
Ilex cornuta	1.75	15.00	
Ilex cornuta Burfordii	1.75	15.00	
All Ilex 1-year-old, from 2½-in. pots			

Pittosporum Tobira and variegata,			
1-year-old, from 2½-in. pots	1.25	10.00	90.00
Albizia Julibrissin	3.50	25.00	
Ginkgo biloba, 1-year seedlings	5.00	40.00	
Ginkgo biloba, 3-year seedlings	6.50	50.00	
Koelreuteria paniculata	5.00	40.00	
Magnolia grandiflora	10.00	90.00	

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Trees, Shrubs, Evergreens—priced low.

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Kaempferi, Poukhanensis, Schlippenbachii, Mucronata, Vaseyi, Enkianthus Campanulatus, Rigida, Taxodium Dist., White Spruce, Norway Spruce, Austrian, Limber Pine, Specimen Yew, 12 to 15-ft. root spread.

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Other plants of unusual character and with the charm of old-time gardens.

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BRADLEY HILLS, BETHESDA, MARYLAND

New York State

Record Attendance Marks Annual Meeting of New York State Nurserymen's Association, Attracting Fruit Growers at Rochester

The annual meeting of the New York State Nurserymen's Association held at Rochester January 11 was one of the busiest and most profitable conventions of the group in years. There were nearly 200 in attendance, and the program drew the interest and participation also of fruit growers who were convening with the New York State Horticultural Society at the same time. The president's address, by W. J. Maloney, Dansville, opened the program at 9:30 a.m.; a banquet concluded the affair in the evening.

The new officers elected for 1938 were as follows: President, L. J. Engleson, Newark; vice-presidents, P. H. Farber, Rochester; William Pitkin, Jr., Rochester; D. B. Belden, Fredonia, and E. T. Costich, Westbury; secretary-treasurer, C. J. Maloy, Rochester, and members of the executive committee, Paul Fortmiller, Newark; Carl Boone, Rochester; D. C. Brown, Rochester; Richard L. Holmes, Newark, and Howard and W. J. Maloney, Dansville.

Among the speakers were the following: Dr. A. B. Buchholz, department of agriculture and markets, Albany; Dr. F. L. Gambrell and Dr. H. B. Tukey, New York experiment station, Geneva; Dr. L. C. Chadwick, Ohio State University, Columbus; Prof. R. W. Curtis, Dr. A. M. S. Pridham and Dr. L. H. MacDaniels, Cornell University, Ithaca, and Charles L. Rumrill, Rochester.

Importance of Trade.

The nursery business is collectively one of the outstanding industries of the state and of the country, said Dr. A. B. Buchholz, talking on "The State Regulatory Service." Yet it is more than a business—it has certain obligations to the purchaser. The one who buys nursery stock cannot know positively what sort of fruit or flowers a plant may produce, and so he must

place confidence in the nurseryman, and the nurseryman in turn must provide reliable stock and the type and variety of plants which the purchaser should have. It was pointed out that the present reawakening of interest in semistandard fruit trees, in rootstocks for fruit trees and ornamentals, in storage problems, in insect and disease control and in soil problems is a happy sign of a vigorous attempt to meet the competition from other sections, which is always present.

Some idea of the extent of the nursery business in New York state may be gathered from the fact that the department of agriculture and markets at Albany lists 1,309 nurserymen, with 11,831 acres. To these may well be added 459 growers of raspberry plants, with 1,356 acres, plus twenty-five or thirty bulb growers on Long Island, with approximately 150 acres, plus over 500 dealers who received certificates. Undoubtedly, there are other groups, including those who specialize in grapes and other plants, who might well be added to this list to make it still more imposing.

It was reported that there are 207 quarantines on nursery stock in the United States, which entail much overlapping and duplication and which could, with proper co-operation between the authorities of the various states and the federal government, be reduced to fifty-two. For example, it was said that there are twenty-five modifications of the quarantine on the alfalfa weevil, which if reduced and standardized to a single quarantine would be of great help to the industry. New York state nurserymen are fortunate in that the regulatory services in the state are highly co-operative and attempt to work with the industry on a co-operative basis rather than merely as policemen attempting to enforce arbitrary rules.

Insect Control.

To travel around the country, Dr. F. L. Gambrell told the nurserymen in his talk, "The Season's Experience with Insects in the Nursery," and to see the insect and disease problems that growers in other sections face is to make one realize that each section has its troubles and that no one section has all the advantages and no troubles. Although little research work has been done in insect and disease control on nursery plants, particularly ornamentals, yet what has been done shows remarkable progress. The arbor-vitae scale, which was shown in colored photographs, heavily infesting taxus and arbor-vitae, producing unattractive blackened shoots, is not difficult to control. Mealy bugs, other rather common pests on evergreens, are also not difficult to handle if the proper spray materials are applied at the proper time.

Good control of the black pine weevil and the strawberry root weevil, prevalent on a wide assortment of plants, attacking not only the roots, but also girdling the twigs and resulting in browning of the foliage, may be secured with five per cent calcium arsenite in a bran-molasses mixture. Five per cent

sodium fluocilicate has given just as good or better results. The spruce gall aphid, which have a wide distribution, are controlled by thorough spraying in late fall or early spring with lime-sulphur, nine gallons to 100. As contrasted with the varying reports from fruit growers and vegetable growers in the control of their insects, nurserymen were told that they could expect 100 per cent kill from some of the treatments mentioned.

With the leaf miners control can be secured with oil sprays, but these cannot be used on blue spruce, because the blue color is destroyed. Experimental results indicate that some of the lead-nicotine sprays may result in just the spray desired. For the pine needle scale, D N oil has given 100 per cent kill, while other materials, such as coal tar oil, have also proved effective. Fairly good results have been secured experimentally by the use of nicotine sulphate 1 to 400 in midsummer.

Plant Propagation.

One of the most interesting phases in the development of nursery practices has been the introduction of the new so-called growth-promoting substances, which have been widely publicized for their value in increasing the percentage and rapidity of rooting of plants. Dr. L. C. Chadwick stated in his address on "Newer Methods in Plant Propagation" that there are a number of these materials on the market at the present time, some under trade names and some as primary chemical materials, such as indolebutyric acid, indoleacetic acid, naphthaleneacetic acid, phenylacetic acid and methyl indolepropionate. Of these, indolebutyric acid has given the best results in most cases and is the material contained in many of the trade-marked compounds on the market. If one is using a quantity of this material, he may find it to his advantage to buy it in crystalline form and dissolve it himself, say, 1 gram in 100 c.c. of ninety-five per cent alcohol. This stock solution may then be diluted as desired.

It was pointed out that these substances are found in buds of trees, in the seeds of cereals and in other plant



L. J. Engleson.



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120 E. Washington Lane, Germantown, PHILA., PA.

STOCK WANTED

30,000 to 50,000 *Syringa Vulgaris*, blue,
lining-out stock, 6 to 12 and 12 to 18
inches. Cash.

C. J. Van Bourgondien
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20,000 **ELMS, American, Vase, Moline**, up to 4 inches, transplanted.

4,000 **MAPLE, Norway**, up to 2½ inches, transplanted.

2,000 **WILLOW, Thurlow**, 8 to 10 ft. and 10 to 12 ft.

10,000 **SPIRAEA, Vanhouttei**, 3 to 4 ft. and 4 to 5 ft.

Send for list on many other items.

C. M. HOBBS & SONS, Inc.
Bridgeport, Indiana

Largest Nursery in Indiana. Established 1875.

BARBERRY THUNBERGII SEEDLINGS

1-year

6000, 3 to 6 ins. 8000, 6 to 9 ins.

25,000 *Ampelopsis Veitchii*, 1-year seedlings

2,000 *Ampelopsis Veitchii*, 2-year transplants

Asparagus, Pedigreed Washington, 2-year

Hydrangea Pee Gee, 3 to 4 ft. and 4 to 5 ft.

T. B. WEST & SON
Maple Bend Nurseries Perry, Ohio

PEONIES for Spring Planting

Ask for Special Offer
THE COTTAGE GARDENS
Lansing, Michigan

COLORADO SPRUCE

2-year-old.

WHITE and NORWAY SPRUCE
2-year-old.

I. C. PATTON, Shepherd, Mich.

BARBERRY SEEDLINGS

1-year

20,000 *Atropurpurea*

100,000 *Thunbergii*

100,000 *Rose Multiflora Japonica*
Cook's Nurseries, Geneva, O.

**Twenty Million
Strawberry Plants**
Complete list of all the new varieties.
We furnish packing out service for nurserymen and seedsmen. Write for wholesale price list.

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Salisbury, Maryland

parts and that they affect the plant variously, such as stimulating the development of the cambium, hastening root production, stimulating callus formation, inducing cell enlargement and even inhibiting root growth and bud growth in some cases.

Much experimental work that has been done with these materials has had to do with the theoretical aspects of plant physiology, and only a few experiments have been conducted with practical objectives in mind. For example, while certain substances may speed up the rooting of a plant two weeks, yet this item of time may not be important with a plant which will not be for sale short of six or eight years from the time it is struck. On the other hand, where there is a shortage of greenhouse space or where the economics of the situation demand, there may conceivably be a real commercial advantage.

So far, it was reported, the results from the use of these materials have not been all that was originally conceived. In the first place, it has been claimed that the percentage of rooting is increased, but experimental results do not bear this out. Second, it is claimed that the rooting is speeded up; this may be so, but in most cases the mere speeding up of rooting is not important under the present modern methods of propagation. Third, it is claimed that the number of roots are increased; this is undoubtedly true, but an increase in number alone without regard to length, size, branching and vigor of the plant is not in itself enough.

The introduction of these growth-promoting substances is highly important because they provide new conceptions of plant growth and rooting, it was said, yet it is doubtful whether they will revolutionize the industry and flood the market with plant materials, as some have predicted. It was reported that sixty per cent of the growth-promoting substances marketed to date had been supplied to amateurs, that the substances were not foolproof and that it was doubtful whether the results which amateurs secured would have any appreciable influence upon the quantity of nursery stock available for purchase.

At the present stage of growth-promoting substances, there is considerable danger of injury from too long treatment or too high concentration. It was felt that one of the important contributions to be made in the near future was in the standardization of time and concentration. In general, concentrations of one, three and five milligrams of growth-promoting substance per 100 c.c. of water, with treatments of six to twenty-four hours, have been most effective. Difficult types have not responded well to treatment, and fruit trees are exceedingly difficult to root. Commercial propagators, it was pointed out, should use these materials with considerable caution and attempt to decide for themselves whether the benefits derived are important enough to warrant their use. Finally, although there is no evidence to point to any harmful effect upon the plant, the question is still open as to whether these materials will affect future performance.

It is regrettable, declared Prof. R. W. Curtis, talking on "New Plant Materials," that there is at the present

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\$12.50 per 10 \$110.00 per 100

CARAGANA ARBORESCENS

2-year seedlings	100	1000	5000
6 to 9 ins.	\$0.75	\$ 5.00	\$18.00
9 to 12 ins.	1.00	7.00	28.00
12 to 18 ins.	1.25	10.00	40.00
18 to 24 ins.	1.75	14.00	55.00
2 to 3 ft.	2.25	20.00	78.00
3 to 4 ft.	4.00	35.00	150.00

RUSSIAN OLIVE

1-year seedlings	100	1000
1200 9 to 12 ins.	\$1.50	\$12.50
3600 12 to 18 ins.	2.20	17.50
2200 18 to 24 ins.	3.00	25.00

Entire lot of 7100 for \$115.00 if cash in full accompanies order.

25 per cent will book your order for early spring shipment.

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SILVER LACE VINES

(*Polygonum Aubertii*)

2-year No. 1.

\$12.00 per 100

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Amoor River North Privet Cuttings

Let us make up your cuttings from our tried and proven "MOTHER BLOCKS." Genuine Amoor River North Privet. All cuttings hand sorted. Cash-with-order price, \$1.50 per 1000, 5000 for \$5.00. Packing free. Order at once.

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Lining-out Stock a Specialty

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LINING-OUT STOCK

Grafted Evergreens
Own-Root Evergreens
Both transplants and potted.
Transplanted Shrubs, Trees and Vines

HILLTOP NURSERIES
CASSTOWN OHIO

5000 JUNIPERUS PFITZERIANA

XXX ALL SIZES

5000 *Spiraea Vanhouttei*, 4 to 5 ft., 10c

Plant Mugs, 24 to 30 ins. up

DAMASCUS NURSERIES
U. S. 62 Damascus, Ohio

time a shortage of some of the better plant materials, as an aftermath of the depression, and undoubtedly many of the more common plant materials will be used to replace them in the industry.

There is a growing interest in the transplanting of large trees, according to Dr. A. M. S. Pridham, who discussed "Tree Moving." Home owners are not content to wait for small plants to grow to full size. This situation brings an increasing and profitable business. Colored lantern slides illustrated new types of tree-moving machinery and their efficient operation.

Fruit Varieties.

An interesting point was made by Dr. L. H. MacDaniels, who spoke on "Bringing the Budding List Up to Date." He said there was a distinct difference between a new ornamental and a new variety of fruit, so far as the purchaser was concerned. Too often, it was said, nurserymen have considered all their plant materials in the same category—merely something to be sold. Yet, in the case of an ornamental, if it did not turn out exactly as the planter had hoped, there might not be any serious repercussion. On the other hand, a person planting an orchard was laying the economic structure for his livelihood years ahead. Accordingly, nurserymen were advised to consider the variety question particularly carefully as it dealt with fruit trees and to be ultraconservative in pushing new varieties.

The standard commercial varieties adapted to the northeast were named as McIntosh, R. I. Greening, Cortland, Northern Spy, Wealthy and Baldwin, with possibly Gravenstein and Delicious. Standard varieties of secondary importance were enumerated as Twenty Ounce, King, Roxbury Russet, Red Canada, Northwestern Greening, Fall Pippin, Stark, Opalescent, Wolf River and many others. Varieties which may succeed in the northeast, but which do better elsewhere, are Delicious, Rome, Ben Davis, Jonathan, Golden Delicious and Grimes Golden. Well known commercial varieties not adapted to the northeast are Winesap, Arkansas, Stayman, York Imperial and Yellow Newtown. Finally, recently introduced varieties which have not yet been tried out sufficiently to establish either their market value or their adaptability to any given climate and soil are Kendall, Macoun, Milton, Melba, Lobo, Lodi, Early McIntosh, Orleans, Turley, Haralson, Lawfam, Hume, Linda and many others of less importance.

Dwarf Fruit Trees.

It was pointed out by Dr. H. B. Tukey in a talk on "Dwarf Fruit Trees" that they do not have a good reputation in America, although they have been known here for the last century and have been used in Europe for three centuries or more. It was suggested that the failure with dwarf trees has been partly the lack of sustained interest, partly the type of culture which they had received and partly the fact that the dwarfing rootstocks used in America in the past were perhaps not too well adapted to American conditions.

Every time that there has been a recurring interest in dwarf trees it has been because of some particular problem, such as the effort to control San

José scale in 1900, involving the use of canvas covers and fumigation methods. Today, there is a distinct demand in the northeast for a slightly smaller tree which comes into bearing earlier, which is planted closer than present standard trees, which gives maximum production for a few years and which is then replaced by new trees. Fruit growers are becoming convinced that there is no money in old trees. Some are already advocating the destruction of orchards after their twenty-fifth year, regardless of condition, and their replacement by young plantings.

Fortunately, it was pointed out, to meet this interest in a semistandard tree, there are some new dwarfing stocks in America, which have given a good account of themselves in Europe, have done fairly well in Canada and look promising on the grounds of the experiment station at Geneva.

These new stocks are varying in their degree of dwarfing. Some of them are exceedingly dwarfing, similar to the old Paradise; others are less dwarfing, similar to the Doucine types used in the past. Others are still less dwarfing, and so on up to those which are little if any dwarfing and which might better be called semistandard than semidwarf. These rootstocks have been propagated successfully in western New York, seem well adapted to the region and suggest the advisability of experimental plantings sufficiently well conducted to establish the value of these stocks for commercial fruit growing.

The program next turned to advertising, in which the principal points of good advertising and good merchandising were brought out by Charles L. Rumrill, with interesting and timely illustrations. Samples of nursery advertisements from standard magazines were shown to have a remarkable lack of diversity and interest. It was pointed

out that the nursery business is most fortunate in having a product to sell which satisfies a fundamental human desire for gardening and home making, and regarding which reams and reams of free publicity are regularly given. It was thought that nurserymen were, as a group, shortsighted in not developing the service aspect of their business. Giving a little attention to satisfying the customer with information on the type of plant he should use and how it should be cared for, perhaps with a fee for service, would in many cases result in a satisfied customer who could not be enticed away.

In the late afternoon, round-table conferences were held on "Landscape," "Catalogue," "Agencies" and "Production." They provided interesting periods for free discussion and helped to clarify many points raised by the speakers in the more formal part of the program.

The banquet, held in the main dining room of the Seneca hotel, was attended by a few over 100 persons, with Paul Fortmiller, Newark, N. Y., as chairman, and Edwin H. Forbush, Springfield, Mass., and Dr. Meyer Jacobstein, Rochester, as the principal speakers.

H. B. Tukey.

ARTHUR MURRAY, president of Arthur Murray Nursery, Inc., and the Murray Termite Control Co., Memphis, Tenn., was elected president of the Memphis Pest Control Association January 10.

AT THE Towson Nurseries, Inc., Towson, Md., preparations are being made for the North American sports, garden and outdoor life show, to be held at Baltimore, Md., in which the firm has several entries under the nurserymen's and landscapers' divisions. William C. Price, president of the firm, has been seriously ill, but is reported recovering.

We offer First Quality tested seeds of
**COLORADO
BLUE SPRUCE**
 and other
 Native
 Evergreens,
 Shrubs,
 Perennials

Upton Gardens
 M. G. R. Marriage
 Colorado Springs
 Colorado

EVERGREEN SEED

For BEST results plant Colorado Blue Spruce seed. From the BLUEST seed of the BLUE trees. We can supply NEW CROP seed from selected trees only, at \$3.50 per lb. Prepaid.
 Dwarf Yucca Glauca, NEW SEED, at 75c per lb. A good Rock Garden Plant.

Rocky Mountain Evergreen Co.
 Evergreen, Colorado

EVERGREEN SEED

Juniper *Scopulorum*, western berries. Trial Pkt. 25c; 1 lb., \$1.10; 5 lbs., \$5.10; 10 lbs., \$9.75. Prepaid. 50 lbs. or more, 75c per lb. collect.
 Gold Medal Hybrid *Daphne* seed. Oz. \$1.00; 4 oz., \$3.00. Trial pkt. 50c. Prepaid.

SWEDBERG NURSERY, Battle Lake, Minn.

Cherry Laurel and Nandina Seed

Nandina seed (berries), \$1.00 per lb.
 Cherry Laurel seed (berries), 25c per lb.
 New crop.

Fruitland Nurseries **Augusta, Ga.**

"Worth Many Times the Price of the Magazine!"

That's what several subscribers have said about the 6-page table on Seed Stratification Practices in The American Nurseryman.

So many requests for extra copies have come that the four articles by L. C. Chadwick on

Improved Practices in Propagation by Seed

have been reprinted in booklet form, at 25 cents per copy.

Send your order now.

Valuable articles of this type constantly appear in The American Nurseryman. Every grower of, and dealer in, outdoor stock should read it regularly.

Published twice a month
 Subscription, \$1.00 per year

AMERICAN NURSERYMAN
 508 S. Dearborn St. Chicago, Ill.

PEACH TREES

Thrifty June-budded Stock

We offer to the trade an up-to-date list of the leading varieties to select from. All of these trees are grown on our farms in Maryland. They have shaped up nicely and have a well balanced fibrous root system—the kind of stock that will please you and your customers.

We invite your inquiry and offer special prices on early bookings.

E. W. Townsend Sons Nurseries
Wholesale Dept.
Salisbury, Maryland

CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in *The American Nurseryman*.]

Henry A. Dreer, Philadelphia, Pa.—A vase of a new pink buddleia, Charming, ornaments the front cover and spikes of double larkspur brighten the back of the wholesale catalogue for 1938. At the front of the book, indexed and containing ninety-six pages, is a yellow sheet of special prices until March for dormant roses. Then come offers of novelties and specialties in flowers, followed by "Reliable" flower seeds of annuals and greenhouse plants, perennial seeds, bulbs and tubers, dahlias, canna roses, perennial plants, shrubs, vines; garden, greenhouse and decorative plants; succulents; vegetable seeds, tools and insecticides. Lawn mixtures are listed on the inside back cover.

Chase Nursery Co., Chase, Ala.—Folder presenting lining-out stock of deciduous shrubs, privet, broad-leaved evergreens, vines and roses. Prominent among shrubs are spiramas and French lilacs.

D. B. Robinson, Wallingford, Conn.—Three mimeographed sheets offering lining-out stock of trees and shrubs, pot-grown liners and grafts from pots. Tree and shrub cuttings and seedlings are listed in a printed folder, with True-hedge columbines, *Erythronium alatum compactum*, *Daphne Mezereum*, *Daphne Cneorum* and *Viburnum Carlesii*.

Henry F. Michell Co., Philadelphia, Pa.—New petunias, scabiosas, calendulas and roses appear in color on the covers of the Michell retail catalogues, of 176 pages. In addition, there are inserts in color. Lists of lawn mixtures, flower novelties and specialties, "Distinctive" flower seeds, vegetable novelties and specialties, other vegetable seeds and plants, farm seeds, canna, dahlias, gladioli, summer bulbs, house plants, roses, perennial plants, vines, flowering shrubs, hedge plants, evergreens, shade trees, fruits and garden tools, supplies and books follow in order. There is an index.

Ralph E. Huntington Nursery, Painesville, O.—With a green insert of wholesale prices for perennial and annual flower seeds, the 48-page catalogue is intended for both the amateur and the professional grower. All-American choices are important listings, as are perennial and rock plants. There are plant collections and some roses are presented.

Earl May Seed Co., Shenandoah, Ia.—Colored pictures on the covers and also within the 72-page catalogue enliven the latest issue of the May publication. Fruits, vines, evergreens, shrubs, roses and hardy ornamentals are included in the nursery material.

Tingle Nursery Co., Pittsfield, Md.—In a neat booklet of fifty-six pages is offered nursery stock from all parts of the world. The listing is alphabetical and includes azaleas, hollies, junipers, lilacs, magnolias and rhododendrons. Plants and bulbs of perennials are offered, especially heathers and day lilies. Fruit stock includes not only trees, but also raspberries, grapes and strawberries.

D. Hill Nursery Co., Dundee, Ill.—The spring 1938 wholesale price list is a folder offering evergreens in lining-out and balled and burlapped stock. A few deciduous varieties are listed. Among the evergreens particularly numerous are junipers, but the offers include taxus and several other sorts. Also mentioned is "Hill's Book of Evergreens."

Stora & Harrison Co., Painesville, O.—Abounding in pictures in natural color and in black and white, the 1938 catalogue includes a collection of berry-bearing shrubs for food for birds. Seeds include All-American selections. Vegetable seeds are also listed. There are perennial plants for summer blooming, roses and a variety of berry material, no omitting fruit stock and nuts. The catalogue is comprehensively indexed.

Benton County Nurseries, Rogers, Ark.—Fruits, small plants, ornamental trees and shrubs, vines, evergreens, including broad-leaved stock, roses, water lilies, dahlias and a miscellany of perennials are offered in a 64-page catalogue with covers in color showing peaches and roses. A smaller catalogue contains lists of vegetable and flower seeds, fruit stock and other nursery material.

Curtis Nurseries, Callicoon, N. Y.—A 12-page booklet presents native trees and shrubs—hemlocks, spruces, rhododendrons, deciduous material and hardy ferns. Also offered are plants of wild flowers and weathered stones for gardens.

Inter-State Nurseries, Hamburg, Ia.—Literally a picture book of flowers, fruits and vegetables is the Inter-State catalogue of sixty-two pages. Many of the illustrations, including those on the covers, are in full color. Roses are listed in many varieties; other nursery material includes trees, shrubs, hedge plants and vines. Perennial plants and annual flower seeds are presented.

Evergreen Nursery Co., Sturgeon Bay, Wis.—Lining-out stock of evergreens and deciduous material and specimen evergreens are offered in a folder. Only a part of the stock grown is listed.

Conard-Pyle Co., West Grove, Pa.—Radio rose, yellow with carmine stripes and blotches, one of the Star débutantes for 1938, appears in color on a midnight-blue cover. Other new varieties are pictured in the catalogue, of thirty pages, with twenty-three pages devoted to roses. Chrysanthemums and other perennials, canna and boxwood are also listed. Besides the new and recent roses, there are seventy-one standard sorts enumerated. The catalogue is indexed.

STRAWBERRIES

Standard
and
Everbearing



From our large plantings, we are in position to fill your orders direct. Let us quote you.

We offer 50,000 Latham and 25,000 St. Regis Raspberries at a low price for immediate sale.

STAHELIN'S NURSERY **Bridgeman Mich.**

RASPBERRIES

	1-yr. No. 1 Per 1000
Taylor (Red)	\$25.00
Indian Summer (Red)	35.00
Sodus (Purple tips)	25.00

Per 1000
Marion (Purple tips).....\$5.00
2-year and other grades

Special prices on large quantities. Let us quote you on your future needs.

Dunham's Grand Mere Nurseries
Baroda, Mich.

CERTIFIED RASPBERRIES

	Per 1000
Taylor, No. 1.....	\$35.00
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Taylor, heavy transplants.....	35.00
Marcy, No. 1.....	37.50
Marcy, heavy transplants.....	27.50
Sodus, purple, No. 1.....	22.50
June, No. 1.....	15.00
Latham, No. 1.....	12.50
Cuthbert, No. 1.....	12.00
Columbian, purple, No. 1.....	14.00

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Hoosick Falls, N. Y.

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ANDREWS NURSERY
FARIBAULT, MINN.

Wholesale Growers of
Grapevines, Currants,
Gooseberries, Blackberries
and Raspberries

Let us quote on your requirements
FOSTER NURSERY COMPANY, INC.
60 Orchard St. Fredonia, N. Y.

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No better plants grown than Hill's high-grade, true-to-name, well graded, new and standard varieties. A trial order is convincing. Let us quote you on your requirements.

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Our Pits Compare Favorably
With the Best

HOGANSVILLE NURSERIES
HOGANSVILLE, GEORGIA

SMALL FRUIT PLANTS

Evergreens — Shrubs
Lining-out Stock

Send for Complete Trade List

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New Carlisle, O.

Wholesale Growers of
Strawberries, Raspberries,
Blackberries and Grapevines
In All Varieties.

Let us quote on your requirements
THE WHITTEN-ACKERMAN NURSERIES
Box A Bridgeman, Michigan

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Write for list and prices

J. A. BAUER

Box 168 Judsonia, Ark.

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NO. 1 PLANTS

Blakemore, Missionary, Klondike, Aroma
\$1.50 and \$2.00 per 1000

WHITE OAK GARDENS

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Our Specialties Are
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General line of Small Fruit plants

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GRAPEVINE SPECIALISTS

We also propagate Currants and Gooseberries. Our experience in growing these items since 1890 enables us to supply our customers with quality stock.

We invite your inquiries.

The F. E. Schifferli & Son Nurseries
Fredonia, N. Y.

Coming Events

CONVENTION DATES.

February 2 and 3, Michigan Association of Nurserymen, Olds hotel, Lansing.

February 2 and 3, Pennsylvania Nurserymen's Association, Hotel Brunswick, Lancaster.

February 9, Rhode Island Nurserymen's Association, Biltmore hotel, Providence.

February 10, Wisconsin Nurserymen's Association, Republican hotel, Milwaukee.

February 10 and 11, Tennessee State Nurserymen's Association, Cherokee hotel, Cleveland, Tenn.

February 22 and 23, short course for nurserymen, University of Maryland, College Park.

WISCONSIN MEETING DATE.

The annual convention of the Wisconsin Nurserymen's Association will be held at the Republic hotel, Milwaukee, Thursday, February 10. Starting at 9:30, the morning session will be devoted to association matters. After luncheon in the Guild hall, the afternoon meeting will be held in the Colonial hall.

TENNESSEE GROUP'S PLANS.

The Tennessee State Nurserymen's Association has selected Cleveland, Tenn., as the convention city and February 10 and 11 as the dates for the annual meeting. Headquarters will be the Cherokee hotel.

The program planned includes several out-of-town speakers, who will discuss topics of timely interest to the trade. The afternoon of February 11 will be devoted to visiting the local nurseries and to a trip that will include the larger estates in the vicinity, Lookout mountain, Missionary ridge and Fort Oglethorpe. The annual banquet will be held the evening of February 11.

D. P. Henegar, of the Henegar Nurseries, McMinnville, is president of the association, and G. M. Bentley, state entomologist and plant pathologist, Knoxville, is secretary and treasurer.

The program for the two day's sessions is as follows:

FEBRUARY 10, 10 A. M.
Invocation, by Rev. M. L. Stevenson, Cleveland.
Address of welcome, by Mayor J. Y. Elliott, Cleveland.

Response, by R. H. Jones, Howell Nurseries, Nashville.

President's address, by D. P. Henegar.
Discussion of address, by W. A. Easterly, Easterly Nursery Co., Cleveland.

Report of secretary-treasurer, by G. M. Bentley.
"Recent Activities of the American Association of Nurserymen," by Owen G. Wood, Wood-Howell Nurseries, Bristol, Va.

"Present Status of Social Security Act Pertaining to Nurserymen," by Lee McClain, Washington Heights Nurseries, Knoxville.

"Soil Conservation and Improvement," by W. M. Landess, agronomist, T. V. A., Knoxville.

Remarks, by John M. Goodman, commissioner of agriculture, Nashville.

FEBRUARY 10, 1:30 P. M.
"Use of Plant Hormones in Stimulating Root Development," by Arthur Meyer, assistant horticulturist, agriculture experiment station, Knoxville.

"Some Observations on Southern Flower Growing," by Dr. T. H. McHatton, head of landscaping department, University of Georgia, Athens.

"Landscaping," by Dr. Robert S. Sturtevant, Harvard University, Forest College of Landscape Architecture, Groton, Mass.

"Timely Matters of Greatest Concern to Nurserymen," by Edward L. Baker, president, American Association of Nurserymen, Fort Worth, Texas.

FEBRUARY 10, 6:30 P. M.
Annual dinner and entertainment. Special feature: Talkie motion picture showing trees,

shrubs, natives, wild animals and birds of Africa, shown by courtesy of Standard Oil Co.

FEBRUARY 11, 9:30 A. M.

"Future Prospects of the Nursery Business," by H. Cobb Caldwell, Ashford Park Nurseries, Atlanta, Ga.

"Nice Work If You Got It and You Can Get It If You Try," by Ex-congressman Harry Nettles, Asheville, N. C.

"Ornamentals and Their Uses at Home and Abroad" (stereopticon), by Mr. and Mrs. Clint Moore, Chattanooga.

"Cherokee National Forest," by P. F. W. Prater, forest supervisor, Cleveland.

"Recreational Developments on T.V.A. Properties," by Robert Howes, planning division, T.V.A., Knoxville.

"Recreation Centers," by Sam F. Brewster, commissioner of conservation, Nashville.

Report of committees.

Election of officers.

FEBRUARY 11, 1:30 P. M.

Automobile trip through Cleveland nurseries under direction of J. F. Varnell, Easterly Nursery Co., Cleveland. Followed by sight-seeing trip to beauty spots in the Cherokee national forest under supervision of Joe Galloway, recreational director.

CINCINNATI SCHOOL PROGRAM.

The Cincinnati Landscape Association will sponsor a nursery school and forum at the Hotel Alms, Cincinnati, O., February 10 and 11. Dr. L. C. Chadwick and Prof. Alex Laurie, of the horticultural department of Ohio State University, Columbus, will present the technical portion of the four daytime sessions, while the two evening sessions will have local speakers discussing more general subjects. Admission to the school will be free, and all nurserymen of the community will be invited.

A banquet Thursday evening will permit those attending to become better acquainted with neighbor nurserymen and with the speakers. Program arrangements are in charge of the secretary, Edward A. Smith, while the newly elected president of the association, Robert Dubois, will act as chairman of the forum. The schedule of talks follows:

FEBRUARY 10, 9 A. M.

"Review of the Experimental Work with Woody Ornamentals at Ohio State University During 1937," by Dr. L. C. Chadwick.

"Soil Tests as a Basis for Fertilizer Recommendations," by Prof. Alex Laurie.

WRITE FOR 10-DAY TRIAL OFFER on this High Pressure PARAGON SPRAYER



TEST it for yourself. Compare results with what you have been getting from your present sprayer. Use any spray solution or cold water paint. Spray your nursery stock, whitewash your greenhouses, barns and tool sheds, **inside and out**. Note how easily this **Paragon** delivers powerful uniform pressure at the nozzle with little effort at the pump handle. Passes through narrowest aisles without jamming at corners. Automatic agitator prevents solution from settling. We guarantee it **never to clog** while in use. Ten days trial costs you nothing if not satisfied. If your dealer does not sell the **Paragon**, mail the coupon today.



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Nurseryman for
February 1.



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Dusters 8 Sizes, 80 Models — Corn Shellers 3 Sizes — Threshers 4 sizes

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STATE'S RECIPROCAL PACTS.

The state of Michigan, through its commissioner of agriculture, John B. Strange, has been able to enter into and complete reciprocal agreements as provided for in the Michigan insect pest and plant disease act with the following states: Connecticut, Iowa, Kansas, Minnesota, Mississippi, Nebraska, New York, Oregon and Wisconsin.

It goes without saying that the waiving of the payment of nonresident license fees will be beneficial to the nurserymen of the states, and no doubt will permit of freer movement of nursery products between the commonwealths which are involved.

Out-of-state nurserymen residing in the states where reciprocal agreements have been completed are still required to file copy of their inspection certificates, and if they have traveling agents or engage the services of Michigan residents to act as their agents all such agents must procure agents' permits from the commissioner of agriculture, and the sum of \$1 must be paid for each agent's permit issued. All agents' permits expire as of September 15 each year, explains E. C. Mandenberg, state nursery inspector.

NEW WAX EMULSION.

The development of a completely new type of wax emulsion for coating trees, shrubs and nursery stock to prevent excessive drying out in freshly planted stock has recently been announced by the Dow Chemical Co., Midland, Mich.

Various wax emulsions have been developed in past years, but none has ever been completely satisfactory in use. In developing Dowax, the Dow Chemical Co. has been successful in overcoming the disadvantages inherent in the antidesiccant materials that have been available up to the present time.

Dowax is a unique material of a radically different composition, that is composed of wax, bentonite and other ingredients. The presence of bentonite prevents the wax from melting in hot weather and from penetrating plant tissue or running to the base of the plant, thereby causing injury. Dowax will withstand temperatures up to 150 degrees Fahrenheit without suffering any change in its physical properties.

The chief use for Dowax is to prevent excessive loss of moisture in transplanting trees and shrubs and to stimulate growth in backward trees and smaller plants. It accomplishes this by depositing a semipermeable, transparent film, which retards, but does not prevent, the processes of transpiration and respiration. Thus, excessive evaporation of water from the plant is reduced without in any way interfering with the normal plant metabolism.

Extensive experiments have also in-

MACHINE TYING

TIE cut flowers—rosebushes—shrubs—perennials—for store and individual trade or retail mail orders—small fruits—counted seedlings—young plants—and so forth.

EASIER — NEATER — TEN TIMES QUICKER

FELINS TYING MACHINE COMPANY MILWAUKEE, WISCONSIN

diated an important use for Dowax in protecting evergreens from winter injury, reducing sun scald on newly planted trees, reducing mortality on transplants in full leaf, coating Christmas trees to prevent needle fall and coating full grown trees after transplanting.

In the nursery field Dowax has found wide application for coating small nursery stock to prevent mold and desiccation in storage.

Many interesting results have been secured by the Dow Chemical Co. in its extensive experimental work on the application of Dowax to overcome certain of the problems confronting nurserymen and landscape gardeners. These have been set forth in a small booklet recently published by this organization.

According to the Dow Chemical Co., Dowax is marketed in paste form and mixes readily in water. It can be used in any type of spraying equipment or can be used as a dip.

The formal opening of the Tropical Groves Nursery, Phoenix, Ariz., December 13 to 16, included tea every afternoon and music every evening. The establishment is located at the edge of the city, on Thomas road.

CLASSIFIED ADVERTISING

300 kinds of Native Plants, write
A. J. Greene, Box 62, Pineola, N. C.

Peonies: Tree and Herbaceous, best varieties.
Oberlin Peony Gardens, Sinking Springs, Pa.

Pinus Resinosa seed, new crop, high germination and purity, at lower prices.
K. J. Braden, Gray, Me.

Evergreens. Rhododendron Maximum, Mountain Laurel, Canadian Hemlock, Azalea, Flowering Dogwood and Red Cedar. Seedlings specially priced. Write for wholesale price list.
Appalachian Evergreens Co., Doeville, Tenn.

Azalea Liners.
We will have approximately fifty thousand Azalea liners for February-March delivery. Place your order now.

Florida Nursery & Landscape Co.,
Leesburg, Fla.

Hansen Bush Cherry.
The newest in early-bearing Cherry fruits. Dwarf growing. Enormous yielding. Extremely hardy and drought-resistant. Large, choice eating fruits. Delicious preserves, jelly, jam, cordial.

Trial: 3 large 2-year, \$1.00, prepaid.
12 large 2-year, \$2.50; 12 small, \$1.50.
All prepaid.

Send for our list of Newest Plant Introductions.
Carl A. Hansen Nursery, Brookings, S. D.

Mrs. Christine Weber, widow of the late Henry J. Weber, founder of the H. J. Weber & Sons Nursery Co., of which Mrs. Weber is now the head, celebrated her ninetieth birthday anniversary January 19, with the families of her three sons, William, Walter and Henry, at her home on the nursery grounds at Affton, Mo. She is confined to a wheel chair, but in good health.

"Going Places with Trees" is the title of a 1,200-foot motion picture in color, which is being shown upon request by the Southern California Horticultural Institute. Thursday, January 20, was ladies' night at the institute meeting at the Mayfair hotel, Los Angeles. Dr. Cynthia Westcott, plant pathologist, gave an illustrated lecture.

SITUATION WANTED

Well educated landscape architect and salesman of high standing desires connection with a reliable firm. Capable in designing, estimating, selling and superintending landscape developments of any size. Also capable retail nursery manager. Best of references. Will work on salary or percentage with drawing account.

Address No. 84, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

PROPAGATOR WANTED

Propagator or experienced assistant, for evergreens, shrubs and perennials, wanted by well known nursery in eastern Pennsylvania. Experience in greenhouse operation desirable. Salary dependent upon qualifications. Permanent position. Address No. 83, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

HELP WANTED

Reliable single man, experienced in nursery, greenhouse, propagating and landscaping. Must be able to handle men, meet public and be American citizen.

Address No. 78, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

FOR SALE

Small nursery and landscape business, established ten years. Owner selling because of health.

Address No. 82, c/o American Nurseryman, 508 S. Dearborn St., Chicago, Ill.

BIG MONEY IN SELLING— LEARN HOW!

Workers in nurseries can increase their earnings through study with the American Landscape School. Ambitious men are asking themselves "What will I be doing a year from today?" They want to move on up. They want to increase their ability to serve the world more largely.

By studying at home in spare time hundreds of nursery workers have trained themselves to sell nursery stock—with increased income and more hope for the future. By adding to their present knowledge of plants, instruction in landscape gardening, planning the landscaping of homes, estates, subdivisions, cemeteries, etc., they can push their pay upward. They are more valuable employees.

These home lessons cover every problem of landscaping, and we help you with any difficulties that arise.

Investigate this opportunity. Course has been thoroughly tested. Start your upward climb today. Ten men in one nursery in Nebraska took the course—to their profit. Send a postal today for catalogue.

AMERICAN LANDSCAPE SCHOOL

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Des Moines, Iowa

SEEDS

	Per 1/4 lb.	Per lb.
Apple Seed, French Cider Crab	.85	\$0.85
Quince, northern scions, see our ad in previous issue.	.35	1.25
Rhododendron ponticum, for understock; oz. \$1.50	4.50
Arbor-vita, American	.85	2.75
Arbor-vita, Oriental	.35	1.25
Hemlock, from its Southern Range	1.60	4.75
Hemlock, true Northern	1.80	6.00
Pine, Austrian	.45	1.25
Pine, Red or Norway (resinosa), a fine grade of domestic; new crop	2.85	8.50
Pine, White	.60	2.00
Spruce, Canada (White)	.50	1.75
Spruce, Norway, Lowland Race of Northern Europe, an extremely hardy and vigorous strain, of dark green color	.70	2.25
Spruce, Norway, French seed, the fastest growing strain	.45	1.50
Spruce, Norway, Austrian seed	.30	.90
ASK FOR OUR COMPLETE OFFERINGS OF 1314 ITEMS.		

F. W. Schumacher, Horticulturist
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WE OFFER FOR Immediate Delivery

Black Locust Seed
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For February-March Delivery
Genuine French Crab Apple Seed
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Originators of patented SEMI-POTTED PLANT AND BULB PACKAGE for over-counter trade. Has WATER-ING TUBE and other unique features.

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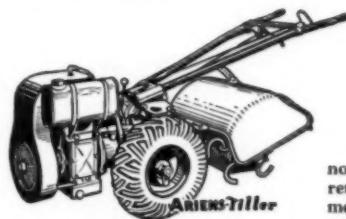
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